EMBEDDING SUSTAINABLE STRATEGIES FOR COMPETITIVE ADVANTAGE IN THE UAE SPORTS SECTOR

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A thesis submitted in partial fulfilment of the requirements of the University of Wolverhampton for the degree of Doctor of Philosophy (PhD)

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Signature……

Date…….

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DEDICATION

This thesis is dedicated to my late grandfather, late grandmother, father and mother. I would also like to dedicate this thesis to my wife, sons, daughter, sisters and brothers.

ABSTRACT

Sports industry is receiving an imperious call to reduce their negative influences associated with their events, operations and facilities on the natural environment. Hence, it has developed numerous initiatives to address pertinent issues, bearing in mind two significant initiatives; reducing their ecological footprint and using the power and popularity of sport as a means to promote and raise environmental awareness and to inspire positive social change amongst fans and spectators. Despite the growing popularity given to sports industry lags behind other forms of facilities with reference to sustainability strategies. Therefore, this study aims to investigate how the United Arab Emirates (UAE) sports sector is embedding sustainability for competitive advantage. A mixed methodology of research was adopted to collect and analyse data. Descriptive analysis was used to analyse quantitative data obtained from 124 completed online survey questionnaires. The results were further augmented by qualitative results derived from semi-structured interviews with 30 professionals from 20 sports organisations. As part of the analysis of the interviews, content analysis was employed. The unit of analysis adopted for this study is the 'sports sector' and the embedded unit is 'individual employee'.

The study concluded that the UAE sports sector is still in the developing stage. The implementation of initiatives related to sustainability is relatively low in the UAE sports sector organisations. Therefore, there is a need to reshape the UAE sports sector organisations existing sustainability strategy in order to gain sustainable competitive advantage. To improve the UAE sports sectors sustainability performance, decision makers have to recognise and understand the concept of sustainability. The lack of leadership skills for successful deployment of sustainability initiatives is one of the most important challenges for the UAE sports organisation. Therefore, there is an urgent need to develop and deliver a bespoke leadership training programs to address, improve and measure the effectiveness of leadership skills for driving change towards sustainability. A sustainable assessment framework was developed and evaluated. This study has made significant contributions to knowledge since there is no previous research explored on embedding sustainability strategies in the context of UAE sports sector. Findings of this research are limited to the UAE sports sector context only, as such, the level of generalisability outside this context may be very limited.

LIST OF ABBREVIATIONS

BOCOG - Beijing Organising Committee for the Olympic Games

BREEAM - Building Research Establishment Environmental Assessment Method

CSR - Corporate Social Responsibility

EIA- Environmental Impact Assessment

EPC - Energy Performance Certificates

ES - Environmental Sustainability

FIFA - The Fédération Internationale de Football Association

FTE - Full Time Equivalents

GDP - Gross domestic product

GRI - Global Reporting Initiative

GSA- Green Sports Alliance

IEQ - Indoor Environmental Quality

IOC - The International Olympic Committee

IoT - Internet of Things

ISO - The International Organization for Standardization

LED - Light-Emitting Diodes

LEED - Leadership in Energy and Environmental Design

MaaS - Mobility as a Service

MUFC - Manchester United Football Club

NFL - The National Football League

NOCs - National Olympic Committees

NRDC – The National Resources Defence Council

ROI- Return On Investment

SEA- Strategic Environmental Accounting

UAE - United Arab Emirates

UK - United Kingdom

UN –United Nation

UNCED – United Nation Conference on the Environment and Development

UNEP - The United National Environmental Programme

CHAPTER 1 : AN INTRODUCTION TO THE STUDY

This opening chapter discusses the background and justification for a strategic framework for embedding smart and sustainable strategies within the UAE sports sector. It also presents the research aim, objectives, and research questions. Furthermore, it highlights potential benefits of this current research. Finally, it presents the structure of the thesis.

1.1 BACKGROUND TO THE RESEARCH STUDY

At present, we running out of stable energy sources, facing fears of climate change consequences, classes' eradication, combined with increasing human anxiety; all these issues representing key drivers to adopt sustainable development or sustainability concepts (The economist, 2013; McCullough and Kellison, 2016). The term sustainable development was first promoted in the "Brundtland"; a report issued by the World Commission on Environment and Development in 1987 (IISD, 2010). The report involved the "classic" and generally accepted definition of sustainable development: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland Report, 1987).

The definition has been perceived to be complex and difficult to some extent, that have been emphasised as a challenge to interpret the concept of sustainable development into defined actions and sustainable business practices for different industries including the sports sector (Raderbauer, 2011). However, nowadays, many sports buildings and facilities are designed, built, and operated with long-term sustainability as a conspicuous aim of designers, contractors, and managers (Kellison and Kim, 2014). For instance, sports buildings consume large quantities of resources and have a major

impact on our health and wellbeing, productivity, and the natural environment. Buildings are critical to our success as society, as Green *et al*., (2015) pointed out that we spend, in average an amount of time in buildings that deserves to ensure that the indoors and outdoors environment meet our physiological and psychological needs.

With regards to sports buildings and facilities, McCullough and Kellison (2016), concluded that sport business has a marvellous impact on the natural environment just like any other business. Additionally, the UN lately specified that "sport facilities, events, activities and the manufacture of sporting goods have an impact on the environment" (UN, 2007). In line with that, main sports arenas, facilities, buildings, and fields consume huge quantities of non-renewable energy and have generally positioned major loads and impacts on their cities' public services (Kellison and Mondello, 2012), thus, the effect of sport on the natural environment is becoming under growing query at all levels including the top proficient levels and amateur levels (Casper *et al.*, 2012; Hums *et al.*, 1999; Lenskyj, 1998; Mallen and Chard, 2011). Consequently, more initiatives have been attempted to resolve these impacts by investing in ecologically-friendly sport facilities.

Trendafilova *et al.*, (2014a) noted that embedding sustainable initiatives in the sport sector would encourage public commitment to protect the environment, that was in agreement with what revealed by the Scotland sports sustainability report (2009) that, local sports clubs are an essential measure of the structure of community existence in the UK, offer a variety of social and substantial economic advantages to local communities. That marks sports as a great tool for change and to promote sustainable practices, and enhance the level of knowledge and awareness about sustainability (Kellison and Mondello, 2012).

Trendafilova *et al.,* (2014b) argued that in view of the growing global interest in sport development to accelerate the transition to sustainable development and societal well-being, an increasing number of sports organisations are obligating themselves to adopt such a move, hence, sport bodies have started to give the environment a great corporate agenda priority, bearing in mind that embedding corporate social responsibility and sustainable initiatives in the sport sector would encourage public commitment to protect the environment. Consequently, architects, engineers, and consultants have begun practicing social responsibility by incorporating green design concepts and technologies for their client's projects. Sport and recreation professionals can benefit by gaining an understanding of the potential benefits of green design and sustainability.

At the present time, universities and higher education systems have an encouraging perception towards sustainability, becoming more concerned to sustainability efforts and clutching the opportunity to influence of the sustainability movement. Consequently, these efforts add to promoting a growing and rapid adoption of sustainability and greening transition, along with embracing eco-friendly strategies in their building codes, ordinances, and laws (Sowell *et al.,* 2003). Sustainable practices are not limited to their noticeable associated environmental benefits, but also can enhance business practices, health and wellbeing, quality of life, effective and improved communities (Reinhart, 2010).

The above-mentioned debate revealed provision of the necessity for sport leadership to address environmental issues from a strategic planning level beyond other approaches since this influences the aims, goals, strategies, and actions needed for singular environmental matters along with the comprehensive sports structure's environmental effect (Inoue and Kent 2012a; Pfahl, 2011a) .

The sustainability is the combination of the ‘corporate social responsibility’, ‘corporate social performance’ and the ‘environmental responsibility’, and these ‘triple bottom line’ all refer to organisations having benefits on economic, social effect and environmental performance in long-term (Galpin *et al.*, 2015). Although the obviously acknowledged importance of sustainability and corporate social responsibility (CSR) adoption within the sports industry; there is a significant lack in the academic research interested in sports and environmental sustainability (ES), similarly, the scarcity of literature in sport and environmental sustainability is inadequate (Trendafilova *et al*., 2014a). The results of researches conducted by Mallen *et al*. (2011) revealed a lack of inclusive and comprehensive ES examination within the sport-related literature, Jenkins, (2012).

If a company has great efforts on sustainability and provides long-term values to both the company and society and the sustainability is embedded into the company's strategy that complements the company's goals and overall mission. Therefore it would be an effective link between the strategy and its performance in the company (Epstein, 2008). However, empirical evidence shows that a significant combination between an organisation's strategy and the company's performance to achieve social responsibility (Galbreath, 2010).

In that regard, Porter and Kramer (2006) suggest that company must identify the different kinds of societal issues to help solve as the best approach, and it can acquire the greatest competitive benefit at the same time. Embedding sustainability in organisational strategy may have multiple cascading benefits throughout the organisation. Not only distinguishing the firm from competitors, but also reaping a dual

benefit of providing value to society, will be likely to be provided in firms that incorporate sustainability in their strategies (Castello and Lozano, 2009).

Over the past century there has been a dramatic increase in the sports sector, the sports sector main means different groups of related activities and services through training and education by organised competition within clubs. Moreover, sports sector consists of three key factors, and it is the events participated in by professional sportspeople, the purposes of it are to leisure pursuits practised for pleasure or fitness, and sports sector has a significant influence on boosting social integration of population groups in difficult circumstances (KPMPC, 2008). According to Cola (2006), sports sector is a combination of the services activities and the practising sports, such as the provision of facilities or equipment, the services of the sports associations, and the supervision of sporting activities.

Recent developments in the field of sports have led to a renewed interest in sustainability, and sports have many different types of forms as well as create an environmental footprint like everything else in life. Additionally, sport is also running through in culture and society, as well as the sports industry provides much-needed business leadership in ecology and sustainable practices by its unique influence (NRDC, 2012). Imparts of sport are much more indirect than social benefits on the participants and spectators, such as improvement of physical health, psychological well-being, community cohesiveness and greater social connections (SIRC, 2006). Apparently, the organiser has paid more attention to the perspective of economic and social than its environmental impacts of the sports sector. However, these three parts of sustainability must be combined to manage the sports sector at all levels by creating a feasible and sustainable development approach (UCL, 2011).

Sustainable sports can be understood as the requirement for the sustainable development of sports itself, and it can also be understood as the sustainable development of sports plays an important role in sustainable development of other subsystems (Lindsey, 2008). To investigate the sustainable development of sports is same as to the sustainable development of the economy, environment and society, it must proceed from sports itself through the study of a variety of the birth, development of sports and its internal relations (Girginov and Hills, 2008). Then it draws lessons from a variety of experiences and lessons, combined with the external environment of sports system, such as the economy, society and other influences on sports, and finally, sum up a sports sustainable development.

Moreover, sustainable development of sports could analyse on the internal system and external environment system of sports (Book and Carlsson, 2011). On the one hand, the internal system of sports main includes the discussion and practice of the theory of sports, the method, process, sports science, sports system, sports industry. On the other hand, it is difficult to ignore on exploring the effects of the external system (Gomez *et al.*, 2007). Through the analysis of the two aspects, it should comprehensively consider problems of sustainable development of sports, not just confine to the sustainable development of sports itself, the combination of society, economy and environmental of sustainability also has a significant impact on sustainable development of sports.

It is thus likely that such connections exist between sports and sustainability. According to Defra (2005), sustainable sports sector has been thought of as a key factor in delivering on the government's policy of sustainability for the development in the future. It would be a major stepping stone on the improvement of the positive influence on the sector in economic, social and environmental of sustainability. According to

AISTS (2014), sport meets the needs of today's sporting community while having positive impacts on the improvement of future sports opportunities and the integrity of the social and natural environment on which it depends.

From the point of view of the world, sustainability has become a central issue for sports sector. Sport contributes to promoting capacity building, environmental awareness and far-reaching actions for environmental, economic and social development by providing broad opportunities (IOC, 2012). According to EPAS (2015), the organisation of large-scale sports events such as the Olympic Games, the FIFA World Cup, the Asian Games or the UEFA European Championships is usually very resource-intensive putting into question their impact in the long term. In particular, FIFA and the IOC make great efforts on promoting the integration of the principles that stem from ISO 26000, and focus on the management and operations of the FIFA World Cup (FIFA, 2012).

Over the past ten years, the sports events that held by different countries all around the world show the strategic importance of sustainability in the sporting world. Therefore, the International Olympic Committee announced as the fourth recommendation in Agenda 2020 vision that 'include Sustainability in all aspects of the Olympic Games' (Fiona, 2015). In China for instance, Beijing was determined to host 2008 Olympic Games that would make a radical change in environmental protection for future generations. The Games organised by the Beijing Organising Committee for the Olympic Games (BOCOG) was a catalyst that embed the concept of environmental sustainability into the comprehensive city development plan (IOC, 2012). However, despite organisations have a certain degree of success in the sustainable development of the sports in China, the challenges remain.

Major sporting events provide a platform for discovering the potential influences of sport for sustainable development and showing its benefits to the general public. At the same time, it is becoming increasingly difficult to ignore the sustainability of sports events for discussion topic (BMZ, 2014). On the contrary, there are many problems have negative effects on the development of sports sector, such as a long time for constructing, high investment cost, hard to operate after sports events and maintenance is not timely. Therefore, it is inevitable that might be expensive and problematic in nature through managing and maintaining facilities in a stadium (Akinsola *et al.*, 2012).

Meanwhile, the culture of management and maintenance has a profound effect, and this has affected imperceptibly our social and economic lives. However, single function and low utilisation of sports venues, as well as the backward management concept are higher level issues in UAE, and these would lead to a severe lack of competitiveness in the sports sector.

Another important finding was that sport has the impact on the natural environment and ES in sports management, and it is emerging as a topic of concern that difficult to ignore (Chard *et al.*, 2013). At the same time, sport provides a visible platform from which to speak and educate about environmental issues (Jonathan and Michael, 2015). Recent developments in sports sector have gradually heightened the need for environmental factors in UAE, many experts have realised the importance role of the environmental protection in the development of sports sector.

The role of cities in sustainable development has become more prominent, as well as the concept of the ‘sustainable city’ has paid more attention worldwide (Darlow, 1996). With the acceleration of economic globalisation and the advancement of urbanisation,

the urban development is pushed to the unprecedented competitive edge, and it is becoming increasingly difficult to ignore the effects of urban development (Wu *et al.*, 2007). Urban economic and social development is facing more and more opportunities and challenges. In the next 30 to 50 years, global climate change and economic globalisation will have increasingly potential influences and great changes on regional development (Lu and Fan, 2010).

The opportunities for urban development main include the following several characteristics: urbanisation is entering the new stage; the trend of regional integration is continuously strengthening; the industrial structure is shifting and restructuring. Meanwhile, all sorts of challenges also arise at the same time, for example, lack of development power of urban development has existed as the most prominent problem at present stage (Dempsey *et al.*, 2009).

In different kinds of major events in the city, the sports events are more special, and its life cycle is long, as well as the relevant field is wild (Chalkley and Essex, 1999). It leads to changes that cannot be ignored for the host city and has significant influences on the development of urban areas, especially on large sports facilities construction. On the other hand, sport has come to be recognised as being of considerable significance for the country as a social perspective (Gratton and Henry, 2001). Therefore, there is an urgent need to relevant theoretical knowledge to effectively deal with the relationship between sports sector and urban spatial development.

1.2 JUSTIFICATION FOR THE STUDY

Increasingly, sport sector organisations are beginning to focus on a sustainable approach to operating their business (Akindes and Kirwan, 2009). The expectation of sports sector organisation to demonstrate their corporate responsibility towards society, environment and economy has never been greater. The spotlights on climate change, use of natural resources, employee well-being, value chains and the global economic crises have all led to increased pressure to manage the impacts of sports business activity on all stakeholders and contribute to sustainable development.

This demand for greater transparency and the continued desire by sports organisations to increase profits at all costs provides a challenge for firms considering implementing sustainability principles. The challenge is, understanding why, how and what. Many organisations are realising the impact of sustainability issues on their core sports business, including resource constraints, climate change, labour issues and poverty.

The sport sustainability footprint is resultant of sport origination functions (e.g., general operation, hosting events, and maintaining facilities) and spectator impact (attendance and viewing). For example, millions of fans attend sporting events, meaning millions of people travel to and from games, most of them in cars or by other public transport.

Upon arrival numerous non-food items are purchased requiring production, packaging, transport, storage, to name a few. Fans at sport facilities produce varying levels of waste after each sporting event (e.g., paper wrappers, cups, food waste both in and outside the stadium). While fan-produced waste often gets the majority of attention, even the athletes themselves generate waste when they play. Water bottles, game notes,

wrappers, etc. are produced by the athletes and add to the overall waste footprint at an event.

Gonzales (2009) and Stinnett (2013) noted that sports, health, fitness, and recreational facilities lag behind other forms of facilities with reference to sustainability strategies. There is no obvious cause for this lag behind other sectors. In the daily operations, there are many approaches and operation measures that can be adopted to promote sustainable practice. These measures can benefit reducing operational expenditures, improve air quality, reduce pollutants, and add to resources conservation. These procedures comprise; energy and water conservation measures, waste management strategies, green cleaning, and sustainable transportation policies (Stinnett, 2013).

By its nature, sports sector, clubs and facilities pose a challenge for the sustainability movement. Sports sector has been arguably recognised to be associated with great number of fans, teams, with high demand to travelling for competitions, having a massive footprint, consuming large amounts of materials to construct arenas facilities and other related infrastructures, consuming huge quantities of energy and water, and produce tons of waste (Cohen, 2009; Basis, 2011).

Sports personnel can be significant lead in the sustainability movement by being aware of and committed to sustainable strategies and initiatives within their particular organisations. To identify scope, priority, how, and the adoption levels, as well as, key drivers, perceptions of the benefits and barriers associated with sustainability embedding and implementation, an investigation of the state of facility sustainability was needed.

The significant challenge of trying to simultaneously manage social, economic and environmental sustainability performance is one of the most critical challenges in the field of sustainability. The majority of literature and research on sustainability, however, still hasn't moved to the issues of how to successfully implement sustainability strategies within the sports organisations. Yet, for those sports organisations pursuing their own sustainability strategies, managers don't know how to incorporate these guidelines into their decision-making, to deal with the competing demands of simultaneously managing social, economic and environmental performance (Epstein *et al*, 2015).

Managers throughout the sports facilities must evaluate the impact of sustainability issues and make decisions, while being accountable for excellent performance in all three dimensions of sustainability. While sustainability initiatives may benefit one another in the long term, they are often conflicting in their need for resources. The most critical issue may be how to implement a focus on social and environmental impacts on sports organisations where the primary measurement focus and most incentives are aligned around short-term profits. Usually, little guidance and support is provided to senior and middle managers in these decisions.

Overall, there is a lack of empirical evidence on the business case for sustainability on a more organisational level. Therefore, this research explores how sports organisations are actually integrating sustainability strategies for competitive advantage. Once an issue is chosen, decision makers will be challenged regarding recommendations on what initiative should be selected to support sustainability (Kotler and Lee, 2005). They need to be prepared to answer tough questions: Why and how can they integrate sustainability initiatives without distracting from the core business? How will

sustainability initiatives give visibility to the organisation? Do these initiatives really work?

Globally, sport is a unique and powerful cultural phenomenon which both unites and divides communities as well as engendering an increasing element of entertainment value (Healy *et al*, 2014). It is a driver of economic development and has a significant bearing on tourism, lifestyle, public health and ultimately, countries international reputation.

The Deloitte (2015) report, for instance, notes that, despite the UAE only being in existence since 1971, Dubai's sport industry is approaching that of leading cities in other economically developed countries in terms of its economic scale and contribution: total gross expenditure related to sport in Dubai is $1.7bn, including direct and indirect spending from all sources, local and international; sport accounts for approximately 0.8% of Dubai's GDP; sponsorship is a well-developed market, with globally recognised brands from Dubai and overseas sponsoring events.

Total value is estimated at approximately $100m; and the sport industry in Dubai is estimated to employ approximately 4,500 people as "Full Time Equivalents" (FTE), 0.6% of the city's total workforce. However, sports organisations are finding it increasingly difficult to balance the needs of all their stakeholders. At the same time sponsorships and media rights emerge as the main engines of growth, putting the traditional dominance of gate revenues under pressure. Sporting bodies and associations are increasingly seeking to introduce new regulations in an attempt to control the cost base and levels of debt in their sports and leave a sustainable business model for future generations.

In addition to their substantial economic impacts, sports have many social and environmental sustainability effects. The UN lately indicated that sport facilities, events, activities and the manufacture of sporting goods have an impact on the environment (United Nations, 2015). Thibault, (2009) states that based on the number of sport events held throughout the world, ecological footprint related to sport is immense and, for the most part, goes unnoticed. It is clear due to the amount of sporting events throughout the world and the publicity and fan base of each sport there are great sustainability impacts both socially and environmentally.

The Government of UAE aimed to become an environmental performance and sustainability regional leader, with specific focuses on creating a safe, sustainable, and economically advanced environment, through setting plan comprises numerous programmes concerning several areas including; social and economic development, infrastructure, environment, security, and justice. The plan is proposed to play a key role in attaining a vision for a "confident and secure society and a sustainable and competitive economy", whilst working in accordance with the aspirations of the UAE leaders; "the excellence of work system, achievement of sustainability, improvement of the government system efficiency, and meeting the current needs and future requirements require continuous review of policies and performance" (The National, 2016).

All employees must work efficiently and effectively in order to accomplish these aims and the comprehensive development. Additionally the plan is perceived as stimulation to the performance of non-oil sectors and achieves cooperation among the Government agencies by directing them towards clear and specific goals to meet the needs and aspirations of the Emirate. In the light of that, "estidama" is an integrated framework

formed by the UAE Government to guide the practice of sustainable development within the Emirate. The framework attempts to guarantee that sustainability is commonly addressed through four key pillars: environmental, economic, social and cultural. (Estidama, 2016). Although sustainability strategies have been widely practiced in some countries, there is a little evidence in the UAE sports sector.

1.3 RESEARCH AIM AND OBJECTIVES

The aim of this study is to explore how the UAE sport sector is embedding sustainable strategies to enhance competitive advantage. The specific objectives are:

1. To explore the outlook of the UAE sports sector.
2. To investigate and document the perception of UAE sports sector on the concept of sustainability.
3. To explore and document the key drivers for implementing sustainability initiatives in the UAE sports sector organisations.
4. To investigate and document the key sustainability initiatives that are currently being implemented in the UAE sports organisations.
5. To critically appraise and document the main challenges the UAE sports sector organisations face in implementing sustainability initiatives.
6. To critically appraise and document the extent to which key sustainability initiatives contribute to competitiveness.
7. To develop and evaluate a sustainable assessment framework for the benefit of UAE sports sector organisations.

1.4 RESEARCH QUESTIONS

A set of research questions were developed through a review of the existing literature to guide the research. Hence, the research study sought to collect data to answer and examine the following research questions: (see Table 1.1)

Overall research questions

1. What is the status of the UAE sports sector?
2. What does sustainability mean to UAE sports organisations?
3. What are the key drivers that have fuelled the need for implementing sustainability initiatives in the UAE sports sector organisations?
4. What are the key sustainability initiatives currently being implemented in the UAE sports sector organisations needed to effect change?
5. What key challenges do UAE sports sector organisations face in implementing sustainability initiatives?
6. What positive impact does sustainability initiatives have on competitiveness?
7. Is there a need for developing a sustainable assessment framework for the benefit of UAE sports sector organisations?

Table 1.1: Traceability matrix of research objectives, research questions and chapter addressed

Sl. No.	Research Objectives		Research Questions	Chapter addressed
RO1	To explore the outlook of the UAE sports sector.	**RQ1**	What is the status of the UAE sports sector?	**Chapter 4**
RO2	To investigate and document the perception of UAE sports sector on the concept of sustainability.	**RQ2**	What does sustainability mean to UAE sports organisations?	**Chapter 4**
RO3	To explore and document the key drivers for implementing sustainability initiatives in the UAE sports sector organisations.	**RQ3**	What are the key drivers that have fuelled the need for implementing sustainability initiatives in the UAE sports sector organisations?	**Chapter 5**
RO4	To investigate and document the key sustainability initiatives that are currently being implemented in the UAE sports organisations.	**RQ4**	What are the key sustainability initiatives currently being implemented in the UAE sports sector organisations needed to effect change?	**Chapter 6**
RO5	To critically appraise and document the main challenges the UAE sports sector organisations face in implementing sustainability initiatives.	**RQ5**	What key challenges do UAE sports sector organisations face in implementing sustainability initiatives?	**Chapter 7**
RO6	To critically appraise and document the extent to which key sustainability initiatives contribute to competitiveness.	**RQ6**	What positive impact does sustainability initiatives have on competitiveness?	**Chapter 7**
RO7	To develop and evaluate a sustainable assessment framework for the benefit of UAE sports sector organisations.	**RQ7**	Is there a need for developing a sustainable assessment framework for the benefit of UAE sports sector organisations?	**Chapter 8**

Legend: **RO** = Research Objective; **RQ** = Research Question

1.5 CONTRIBUTION TO KNOWLEDGE

It is useful to distinguish between "rational" and "empirical" knowledge. Empirical knowledge is derived from observation of the world and/or interacting with it in some way. Rational knowledge, although it is a widely debated distinction, is knowledge which is independent of our experience or at least is context-independent. Many social scientists argue that knowledge has both rational and empirical dimensions; rather than being context-independent, knowledge is always contingent in the sense of depending on the particular situation in which the knowledge is applied or developed (Flyvbjerg, 2007).

This thesis makes a contribution to empirical knowledge of implementing sustainable strategies for competitive advantage in the UAE sports sector. Phillips and Pugh (2010) identify a number of ways in which a PhD thesis may be considered to be original. The first of these is: "setting down a major piece of new information in writing for the first time". This thesis explores and analyses the implementation of sustainable strategies for competitive advantage in the UAE sports sector. The context is therefore of particular interest and the study of it capable of making a useful contribution to empirical knowledge. Therefore, the thesis can be seen as a case study in developing sustainability strategies in the sports sector and one which adds variety to the existing stock of such case studies. Given that sports related sustainability strategies has not previously been studied from UAE perspective and its intrinsic interest, this thesis satisfies the Phillips and Pugh criterion for originality.

The study will be of benefit to employees, managers, and leaders at every level and in every function of UAE sports sector organisations. The results of the study will:

- Improve understanding and awareness of the meaning of sustainability at a conceptual level.
- Increase understanding on the key drivers for implementing sustainability initiatives. This could assist decision makers to develop and deploy sustainability strategy based on key drivers.
- Assist decision makers to identify and implement key sustainability initiatives.
- Improve awareness of the key challenges sports sector organisations face in implementing sustainability initiatives.
- Provide evidence of the benefits of sustainability initiatives within the UAE sports sector organisations.
- The developed sustainable assessment framework provides broader guidance for organisations to implement sustainability initiatives into day-to-day practices. The sustainable assessment framework could also help decision makers to craft and deploy key strategy to improve competitiveness.

1.6 SCOPE AND LIMITATIONS OF THE STUDY

The empirical scope of this study is limited to UAE sports sector organisations. The unit of analysis adopted for this study is the 'organisation' and the embedded unit is 'individual employee'. Therefore, this study does not report the differences between micro enterprises, small and medium-sized enterprises' and large organisations approach to sustainability initiatives for improved competitiveness.

The research reported in this study is largely exploratory in nature. This is because of the inductive nature of the methodology adopted. The goal of this research is to answer the research questions rather than testing hypothesis. Additional research with more

elaborate and articulated designs is therefore called for, to further explore the complex relationships with implementing sustainability initiatives for improved sports sector organisations competitiveness.

A sustainable assessment framework for the benefit of sports sector organisations is developed and evaluated. Even though the framework which has been developed and evaluated with experienced professionals, it has not been tested within an organisation.

1.7 STRUCTURE OF THE THESIS

The thesis has been organised in a logical manner in order to enable the reader to gain insight and understanding of how the key research objectives and research questions have been achieved. The layout of the thesis is in a logical sequence, commencing with the introduction to the study in chapter 1 to the conclusions and recommendations in chapter 9.

Chapter 1 – explains the background and justification for the study. Then it discusses the research aim, objectives and research questions. Also it highlights the contribution to knowledge, scope and limitations of the study and gives a brief overview of the other chapters.

Chapter 2 – presents a critical review of current literature concerning sustainability in the sports sector, describes the concept of sustainability, along with its applied initiatives in the sports industry, overview of current scholarly work on sport and environment, sustainability reporting, communication and data sharing, evaluating current performance levels, and sports sustainability in the international context, and

how sustainability is strategically addressed at and managed at higher leadership levels. It also presents the key drivers, benefits, challenges, and implementation associated issues, the sports as a motivator for sustainable development along with the importance of fans engagement. The chapter also highlighted the significant role IT can play in enhancing sports sustainability.

Chapter 3 – discusses the research methodology that is used to empirically investigate the research aim and objectives. The chapter also discusses why a mixed methodology was adopted. Furthermore, the sample size chosen for the study has been explained. Research process adopted for the study has also been described.

Chapter 4 – discusses the status of the UAE sports sector and perceptions of the UAE sports sector on the concept of sustainability. The discussion is based on quantitative and qualitative data. Overall, chapter 4 addresses objectives 1 and 2. Finally, chapter 4 concludes with a summary.

Chapter 5– primarily reports on the key drivers that have fuelled the need for implementing sustainability initiatives in the UAE sports sector. The discussion is based on quantitative and qualitative data. Overall, chapter 5 addresses objective 3 of this study. Finally, chapter 5 concludes with a summary.

Chapter 6 – present the key sustainability initiatives that have been implemented in the UAE sports sector organisations. The results discussed in this chapter are based on quantitative and qualitative data. Overall, chapter 6 addresses objective 4. Finally, chapter 6 concludes with a summary.

Chapter 7 – present on the key challenges the UAE sports sector organisations face in implementing sustainability initiatives. Also, it discusses the impact of sustainability initiatives on the UAE sports sector organisations competitiveness. The results discussed in this chapter are based on quantitative and qualitative data. Overall, chapter 7 addresses objectives 5 and 6. Finally, chapter 7 concludes with a summary.

Chapter 8 – discusses sustainable assessment framework for managing transformational change towards sustainability. The findings from the previous stages of this research study were taken into consideration in the development of the assessment framework. Finally, chapter 8 concludes with a summary. Overall, chapter 8 addresses the objective 7 of the current study.

Chapter 9 – focuses on the conclusions and recommendations drawn from this study. It summarises the key findings of this research and also provides recommendations for the future research in the area of embedding sustainability strategies in the UAE sports sector.

CHAPTER 2 : A REVIEW OF LITERATURE RELATED TO SPORTS AND SUSTAINABILITY

2.1 INTRODUCTION

This chapter is geared towards: the concept of sustainability, corporate sustainability, key drivers, key initiatives, key challenges and the impact of sustainability initiatives on organisational competitiveness.

2.2 CONCEPT OF SUSTAINABILITY

In the context of this external scrutiny, more companies are reviewing their sustainability approach to determine what changes may be required. In a report carried out by Ernst and Young (2010), the participants described a three-stage journey that companies go through when they decide to embed sustainability in their corporate cultures. The three stages are as follows:

• ensuring they are in compliance with regulations;

• focusing on and reporting on economic benefits;

• integrating sustainability into the core strategy and culture.

In the case of a company adopting a framework under an ISO standard, the first step is planning what is required for the sustainable management system (International Organization for Standardization, 2014). These issues are no different for sporting organisations.

Main sports stadiums, arenas, and fields consume huge quantities of non-renewable energy and have generally positioned major loads and impacts on their cities' public services (Kellison and Mondello, 2012), thus, the effect of sport on the natural environment is becoming under growing query at all levels including the top proficient

levels and amateur levels (Casper *et al*., 2012; Hums *et al*., 1999; Lenskyj, 1998; Mallen and Chard, 2011).

Consequently, more initiatives have been attempted to resolve these impacts by investing in ecologically-friendly sport amenities. In the United States only, physical services consume 14 % of the nation's drinkable water and are accountable for 30% of waste yield, 40% of raw materials consumption, 38% of carbon dioxide releases, 24-to-50% of energy usage, and 72% of electricity use (GBC, 2011). As public requests for economic and environmental stewardship have enlarged in latest years, several sports groups have started adopting pro-environmental creativities linked to facility management and operating (Kellison *et al*., 2015).

2.3 SUSTAINABILITY AND CSR IN SPORTS INDUSTRY

Trendafilova *et al*., (2013) and Babiak and Trendafilova, (2011) argued that environment issues have lately received an importance on the schemes of most organisations, particularly, sport sector which have a vast impact on the environment and essentially be impacted by environmental issues are shifting their attention to environmental CSR. A prominent event in environmental sustainability (ES) took place during the 1992 UN Conference on the Environment and Development (UNCED), which became well-known as "The Earth Summit." The core outcome of this consultation is the agreement of "Agenda 21" by the UN. This Agenda suggested an advanced effort for sustainable development, counting environmental, economic, and social sustainability and the rearranging of multidisciplinary schooling to support sustainable development (UN Agenda 21, 1992).

Based on the outcomes from the 1992 "Earth Summit," the International Olympic Committee (IOC) outlined an agreement called an "Earth Pledge" (Cantelon and Letters, 2000, p. 304) and the 1992 Barcelona Organising Committee for the Olympic Games (OCOG) advised all National Olympic Committees (NOCs) to obligate the pledge. This pledge embodied the first official suggestion that the IOC indorsed ES throughout sport by enquiring the NOCs to come to be ES legacy partners. Additionally, the 1992 European Sports Charter, a paper established by the Council of Europe, Committee of Ministers, also delivered a set of shared values associated to ES in sport, indicating that sport was "to be carried out in accordance with the principles of sustainable development and balanced management of the environment" (Mallen *et al*., 2011).

The results of various studies investigated the link between sport and environmental argued that the link cognizance dates back to the 1994 Olympic Games in Lillehammer, at that time, adjacent consideration was given to the manufacture of sport facilities and their impacts on the environment (Trendafilov *et al*., 2012; IOC, 2013; Kellison *et al*., 2015).

Subsequent the attainment of the 1994 Olympics, the IOC approved the environment as the third column of Olympism and requisite bidding capitals to deliver definite plans outlining by what means they would safeguard the environment throughout the production and performance of the Games (IOC, 2014; Babiak and Wolfe, 2006). Moreover, in 1994, the United Nations Environment Programme recognized its Sports and Environment inventiveness to motivate ecological awareness throughout sport (Kellison *et al*., 2015; Paquette *et al*., 2011).

Although the obviously acknowledged importance of sustainability and CSR adoption within the sports industry; there is a significant lack in the academic research interested in sports and environmental sustainability, similarly, the scarcity of literature in sport and ES is inadequate Trendafilova et al. (2014a). The results of researches conducted by Mallen *et al*. (2011) revealed a lack of inclusive and comprehensive ES examination within the sport-related literature, Jenkins, (2012). In their comprehensive study examining the current state and future trend of ES within sports activities, Trendafilova *et al*. (2014a) stated that Smith and Westerbeek (2007) recognise that sport has turned into a more ecologically cognizant, however there are still concerns regarding the destructive environmental bearings associated with sport events construction and operations.

Even so, Trendafilova *et al*. (2014a) has an optimistic understanding of the current of sport-ES investigation suggesting that this area is in its beginning. Subsequently, they also pointed out that the academic work related to sport and the environment has progressively grown throughout the past decade, added that Lenskyj (1998) was the first to study the complex connection amid sport and the environment.

A considerable range of studies argued that the academic literature on sport and the natural environment has grown significantly and developed over the past decade. The ways sport managers considering environmental matters has been presented to investigation, analysis, and practical exploration only in recent years; (Casper *et al*., 2012; Elliott and Delpy-Neirotti, 2008; Hums, 1999; Inoue and Kent, 2012b; Lenskyj, 1998; Jin, 2011; Pfahl, 2011a; Pfahl, 2013).

Numerous scholars such as Trendafilova *et al*. (2014b); Babiak *et al.,* (2011); Mallen *et al.,* (2010) hold the view that a significant development in the building of facilities is associated with the establishment of Leadership in Energy and Environmental Design (LEED), originated by the US Green Building Council, which is a worldwide acknowledged mark that offers an outline for employing sustainable design. Consequently, the results of a study on 16 major North American sport facilities concluded that sport facility directors are obliged to address environmental sustainability (Mallen *et al.*, 2011), highlighting the implementation of many formal and informal environmental schemes to demonstrate this new emphasis, with most practices focusing around saving electricity and recycling (Trendafilova *et al.,* 2014b).

The findings of their content analysis study Mallen *et al.,* (2011) identified limited literature on sport and ES in a sample of sport-related journals. The study investigated fourteen of the fifteen sport journals on Shilbury and Rentschler's list, counting but not limited to: European Sport Management Quarterly, International Journal of Sport Finance, International Journal of Sport Management, International Journal of Sports Marketing and Sponsorship, International Review for the Sociology of Sport, Journal of Sport Economics, Journal of Sport and Social Issues, Journal of Sport Management, Sport Management Review, Sport Marketing Quarterly.

The study found limited works on sport and ES within a sample of sport-related journals, whilst concluded that only 17 of the 4,639 peer articles studied from the 21 sport-related journals considered ES directly. This characterised only 0.365% of the academic literature studied in this research. Six studies were issued before 2000 and 11 were published during the years 2000–2008, which characterises a gradual growth in production over time, yet a low publication frequency (Mallen *et al.*, 2011).

Furthermore, the current academic literature on sport has shown a major gab in clarifying the notion of sustainability; with only a few systematic studies of the sustainability of sports improvement initiatives. The study by Lawson (2005); emphases sustainability of social and human development throughout sport. Whereas (Dowda *et al.*, 2005) investigated the sustained practice of the resource usage presented by the use of a physical education course.

Kirk (2004), in a more general way stated that there is a lack of studies that investigate the sustainability of youth people's contribution in sport. These presence characterise the small number of research of sports development initiatives to examine sustainability in that they consider particular features of sustainability instead of proposing leadership outlining how sustainability should be addressed, or considered as a whole (Lindsey, 2008).

The preliminary efforts in this vital area has resulted in the conception of a theoretic basis and practical orientation of CSR for sport academics and leaders initiated on the "unique" feature of sporting sector and how this impacts the expansion of CSR in them. Smith and Westerbeek (2007) suggest an influential argument for the opportunity of CSR within sports sector, noticing the unique nature and profits of the implementation of 'sport corporate responsibility,' (see Table 2.1).

Babiak and Wolfe (2009) similarly deliberate such 'unique' characteristics, proposing that the subsequent four aspects are rather different in the area of professional sport and are of specific significance to CSR strategy, application, and influence in sport: passion, economics, transparency, and shareholder controlling (see Table 2.2).

Table 2.1: Unique features of "sport corporate responsibility"

1. Mass media distribution and communication power
2. youth appeal-social responsibility can be exercised with both 'push' and 'pull' support; participation based programmes can encourage involvement, while high profile sports people can provide role models for emulation.
3. Positive health impacts
4. Social interaction
5. Sustainability awareness-promotion of a keen environmental responsibility,
6. Cultural understanding, and integration,
7. Immediate gratification benefits.

Source: *Smith and Westerbeek (2007) and Jenkins, (2012)*

Table 2.2: Sports and its significance to CSR

Passion	Given the Passion and interest that sport generates, athletes promoting, for example, healthful living, may generate a larger, more attentive audience than would employees in other fields. More generally, it has been suggested that the passion and identification that sports teams generate can be beneficial to communities as a whole by encouraging and strengthening community integration.
Economics	There are some unique economic elements of the sport industry that results in different expectations of sport than of other industries.
Transparency	Almost everything achieved by the leadership and employees of a team is open knowledge. Sport organisations may engage in CSR activities as insurance against negative reactions or as an effort to improve their image.
Stakeholder management	Success in the sport industry necessitates the ability to work within a complex set of stakeholder relationships; a team cannot operate without the cooperation of many organisations.

Source: *Babiak and Wolfe, (2009) and Jenkins, (2012)*

Interestingly, the investigation of the sport management literature indicated that environmental sustainability has developed as a defined research focus with in managerial practice aspects (Mallen and Chard 2011; Thibault, 2009). Initial research delivered theoretical frameworks using institutional theory to recognize the appearance of environmental sustainability interventions through the sport manufacturing (Babiak and Trendafilova, 2011; McCullough and Cunningham, 2010). The discussion about sport and the ecosystem heads the central of sport operations and arrangement for the

reason that, as Mallen and Chard (2011) illustrated, there are a range of matters exist that can be studied from an equal figure of analytical visions (McCullough *et al*., 2015).

Babiak and Trendafilova (2011), McCullough and Cunningham (2011), and McCullough (2013), studied the drives of sport organisations to deploy environmental management practices, their framework exactly is outlined within the perspective of corporate social responsibility (CSR), but is fundamentally interrelated to strategic efforts through a different of organisational levels (McCullough *et al*., 2015).

On the other hand, the aim of Williams and Dair's (2007) study was to identify 12 barriers to implementing sustainability in development schemes, drawn from qualitative research on five newly accomplished projects in England. The study accompaniments preceding research on barriers to the execution of eco-friendly initiatives that took a theoretic methodology and those that explored present performs. The study outcomes delivered important materials, which also helped in forming basis for very cautious critical broad view about the aptitude of the planning and progress practices in England to provide sustainable building developments (Williams and Dair, 2007).

2.4 CURRENTLY IMPLEMENTED SUSTAINABILITY INITIATIVES IN SPORTS SECTOR

The landscape of sport administrations has transformed radically throughout the past decades. The leaning is for sport structures to progressively deploy further and enlarge on current environmental strategies. This attention on the environment will remain to be on the program of numerous sport organisations not only as a result of change in social beliefs, but similarly because of new opportunities from several of stakeholders, (Trendaflova *et al*., 2014; Kellison, 2015).

Findings of previous studies indicated that sport administrations are effectually tracking the negative environmental influence of their operations generating results counting growing administrative legality, deterring permissible recourse, saving money, and creating robust relations with key shareholders (McCullough *et al*. 2015; Trendaflova *et al*., 2014; Trendafilova, and Babiak, 2013; Trendaflova *et al*., 2013; Mallen *et al*., 2011). Results also proved the barriers related to the effective adoption of environmental strategies for instance; communicating matters and accessible managerial resources.

On the other hand, research also revealed that sport administrations should establish relations and develop long-standing corporations with business professionals, mainly in the sector of solid waste managing and the establishment of energy and water-efficient initiatives (Trendaflova *et al*., 2014; Trendafilova, and Babiak, 2013; Trendaflova *et al*., 2013; Mallen *et al*., 2011).

Stinnett, (2013) indicated that these measures can benefit to lessen functioning and running expenses, improve air quality, reduce waste product, and save resources. Regions to adopt sustainable actions can comprise; green cleaning, reheating/air circulation/air-conditioning maintenance, energy saving, water upkeep, green travel, recycling programs, food service procedures, and green grounds protection (Stinnett, 2013). The advanced obligation of the sport leaders and the collaborative work with the NRDC and the Green Sports Alliance has been stated in the 'Game Changer' report, published in 2012. The report offers various case studies of the expert sports business's most successful and effective greening strategies through North America (Trendaflova *et al*., 2014).

In spite of the cooperative relationship amongst sport organisations, McCullough *et al*., (2015) argued that sport bodies address the environmental matter in different ways. Added that, meanwhile each framework to apply ES initiatives is sole and unique, and whereas principles might be outlined for inter-context practice, it should be noticed that there is no single method to address environmental concerns (McCullough *et al*., 2015).

However, different levels of sport are associated with different interrelated environmental concerns, hence different levels of sport personnel work to identify and address environmental matters encountering their specific events or organisation's activities (McCullough and Cunningham 2011; McCullough 2013; Mallen and Chard 2011; NRDC, 2013; Pfahl, 2013). Additionally, the appearance of interventions may vary, however its level of complication and integration may reflect the organisation's level with regard to environmental awareness. This programme is motivating conceptualisations of in what way sport and the natural environment should function in harmony (McCullough *et al*., 2015).

2.5 SUSTAINABILITY REPORTING, COMMUNICATION AND DATA SHARING

Ciletti *et al*., (2010) concluded that sport organisations in all associations were sharing environmental sustainability by some means throughout their website; 33% on home pages and 50% on pages other than the home page; e.g., the Philadelphia Eagles have a link to their "Go Green" webpage, which offers an executive statistics of their comprehensive sustainability efforts for the preceding year. Equally, The Ohio State University's sustainability office, in cooperation with the athletic department, reports and delivers more information regarding the zero-waste works at Ohio Stadium on the campus sustainability and athletic websites (Kellison *et al*., 2015).

These website communications are effective in communicating the efforts, avoiding greenwashing indictments, receiving trustworthiness amongst environmental bodies and community participants. Reporting and communicating credibility allows for fans to participate into their structure's environmental activities since the team looks more reliable (Inoue and Kent, 2012b). The buy-in from fans can be advanced through direct communication between the organisation and fans (Kellison *et al*., 2015).

Then again, there is some evidence to suggest that Green Building in Sport Stadiums acknowledged for their eco-friendly designs, normally prove effectiveness expertise in numerous different aspects, counting; selection of sites, water usage, energy consumption and carbon emissions, resources and materials selection, and novelty in design and operating schemes (Kellison, 2015; Kellison *et al*., 2015).

More precise examples of sustainable stadium initiatives comprise: building a new facility on a reclaimed brownfield; promotion infrastructure intended to encourage public transportation (e.g., London Olympic Stadium; IOC, 2013b); using rainwater for field irrigation (e.g., Suncorp Stadium); setting up wind turbines (e.g., Lincoln Financial Field) or solar panels (e.g., Levi's Stadium) on or surrounding the arenas; emerging an effective waste management strategy (e.g., Ohio Stadium); and using LED lights (e.g., Bell Centre). Moreover, the distinct introductions of the USGBC's Leadership in Energy and Environmental Design (LEED) rating system in 2008 and the Green Sports Alliance in 2011 reveal the relatively new growth of sustainable buildings in sport (Kellison *et al*., 2015).

As more studies prove that pro-environmental stadium scheme is becoming a more mainstream strategy approach, bearing in mind the fact that numerous major

architecture organisations have positioned sustainability as an essential aspect of their developments portfolios; Populous, for instance, has planned more main LEED-certified stadiums than any other corporation (Kellison, 2014). Two other great construction companies, AECOM and HKS, were placed third and ninth, correspondingly, in Engineering News-Record's "Top 100 Green Buildings Design Firms" for 2014. Furthermore, HKS lately dedicated to the Architecture 2030 Challenge, an international program of designers and constructers aiming at brand all new buildings and key renewals carbon neutral in 2030 (Kellison *et al*., 2015).

One major drawback of current literature is that the majority of research related to pro-environmentalism and sport has focused on facilities that interrelated to major professional teams or international competitions such as the Olympic Games or FIFA World Cup (e.g., Ansari *et al*., 2013; Ciletti, *et al*., 2010; Mallen, *et al*., 2010a; Ponsford, 2011; Samuel and Stubbs, 2012; Trendafilova *et al*., 2013).

However, there is an inadequate knowledge about the environmental strategies related to smaller league sector strategies. A possible explanation for this might be that professional sport leagues and mega events are in most interest from the media and customers. On the other hand, it is should be noticed that of professional sport venues are figured within finite number and within limited locations in large urban environments, hence; most likely people to habit other public facilities e.g. city swimming pools, fitness and recreation centres, and other arenas and halls (Trendafilova *et al*., 2014a).

2.6 IMPLEMENTED MEASURES AND TECHNIQUES

Generally, as in other businesses, sport administrations begin with greatly noticeable and simply executed sustainability initiatives such as recycling plans, community dedicated measures, and basic fan commitment events as part of a wider structural scheme mostly targeting corporate social responsibility (CSR) (Casper *et al*., 2014; Trendafilova and Babiak, 2011). Casper and colleagues (2012) pointed out that sport directors identify the significance of sustainability strategies and aim to consider these matters.

In agreement with that, McCullough (2013), Inoue and Kent, (2012b), Casper, *et al*., (2014) illustrated that recycling programmes, combined with plans and policies to landfill reduction are the most common technique for sport structures to leverage their adopted environmental strategies is to offer visible measures of their efforts (Kellison *et al*., 2015).

Furthermore, Kellison and Kim (2014) and Casper, *et al.*, (2014) argued that recycling and composting bins are possibly the most frequently applied tool to promote environmental awareness. These bins not only decrease a sporting activities environmental impact and minimise landfill waste, but also they can assist as a shared means to prove primary steps towards an eco-friendly organisation, and as claimed by McCullough (2013) such measures can help fans recognise and appreciate the efforts adopted by the sport organisation to advance the environmental movements and aid them to contribute in ecologically sustainable actions which possibly promote positive routine manners for the spectators (Kellison *et al*., 2015).

2.7 SPORTS SUSTAINABILITY AND SOCIAL CHANGE RELATION; THE ROLE OF FANS ENGAGEMENT

Academic interferences such as green games can educate fans on recycling, carpooling, and environmental matters particularly to that area (Casper *et al*., 2014). Furthermore, green games are a beneficial means to encourage the behavioural intentions of spectators to participate in eco-friendly practices at the game and in their personal lives activities (Kellison *et al*., 2015).

To make the most of direct contact, sport organisations have commenced to directly involve spectators as strategy transfers beyond putting into practice of environmental plans to prompting performance, however cautious measures should be employed so as to not be burdens and hence alienate the fans. Sport organisations can influence fan identification to stimulate sport spectators' activities manners and daily activities (Casper *et al*., 2014; Inoue and Kent, 2012a; McCullough, 2013). Casper and colleagues indicated that sporting activities are non-threatening and non-political events, by this means proposing a platform to communicate and inform fans on environmental sustainability (ES) concerns and inspire sport event and daily behaviours (Kellison *et al*., 2015).

2.8 MEASURING AND EVALUATING CURRENT PERFORMANCE LEVELS

Recent research has suggested that the majority of respondents felt that they are already doing well in many areas including; energy monitoring, conservation and efficiency; waste management; local organic and sustainable food; travel impacts; and sponsor approaches stating that there is still a room for improvement (Kellison *et al*., 2014; Griskevicius *et al*., 2010; Chard *et al*, 2012; Basis, 2011; Inoue and Kent, 2012a). Additionally, most researches aimed at identifying areas where more information is needed, outlined a variety of areas including; International and British standards,

renewable energy and microgeneration, fan attitudes, sponsor approaches, climate change impacts, green building and local, organic and sustainable food (Basis, 2011).

The BREEAM database was referred so as to define the number of BREEAM certified sport facilities in Europe; the findings showed that (by using the following keywords were used); Sport, sports: 51 facilities (49 in UK, 1 in Belgium and 1 in Netherlands), Stadium: 4 facilities (3 in UK, and 1 in Hungary), Arena: 15 facilities (2 in Sweden, 1 in Netherlands, 10 in UK and 2 in Spain), Swimming: 1 facility (UK), Football: 4 (UK), Tennis: 0, Athletic: 2, (UK), Gym: 9 (UK), Leisure: 26 (UK). These results indicate an estimated figure of how many sport buildings are certified with BREEAM (BREEAM, 2016) and (step2sport, 2014).

Similarly, in a study exploring LEED certificates attained within sports industry, a number of important outcomes shaped; the LEED Accredited Professional (AP) certification is nearly absent amongst academic recreational sports professionals; Suggestions commencing from this research comprise delivering standard data, LEED-AP credential considerations, creating counselling commissions, and forming NIRSA Region VI institutions (Stinnett, 2013).

2.9 KEY DRIVERS FOR IMPLEMENTING SUSTAINABILITY INITIATIVES IN THE SPORTS SECTOR

Although the examples mentioned above comprise major international sporting activities, similarly, the environment impacts local sport and recreation events too. Nature-based sports, for instance; skiing and golf see environmental influences every day, hence it is essential to recognize that all features of sport have a linkage with the natural environment; (McCullough *et al*., 2015). Environmental sustainability (ES), has

gradually been known as a vital feature of corporate social responsibility (CSR), and it is not only essential for leisure sport businesses, but also for all sport society (Ioakimidis, 2007). As sport comes to be an ever more prominent economic and social organisation through the world, More attention should be placed to outline what societal responsibilities athletes, trainers, team possessors, association executives, and worldwide sport organisation' people have (Godfrey, 2009; Jenkins, 2012).

The outcomes of a research on 16 key North American sport facilities stated that sport facility directors are compelled to consider environmental sustainability. Several facilities have executed various strategies and environmental systems to reflect this new emphasis, with most implemented environmental initiatives addressing saving electricity and recycling, (Mallen *et al*., 2011; Trendafilova *et al*., 2014a). Accordingly, the conclusion of previous research reviewing the position of stakeholders in sustainability efforts, stated that the involvement of stakeholders offer organisations an enhanced understanding and explanation of the various scopes of the environmental barriers they encounter (Babiak and Trendafilova, 2011; Trendafilova *et al*., 2014b).

Architects also pointed out that, as individual engineers, their impact was narrow. Alternatively, they claimed social pressure arisen from fans, ecological campaigners, and ordinary inhabitants considered deeply on decision-makers. Signifying the advantages of a team's position with the environmental drive would inspire more adoption of ecological strategy in sport (Kellison *et al*., 2015).

McCullough (2015) specified that internal and external stakeholders continually scrutinize organisation personnel, apply pressure on them, and inspire them to explain and justify their practices, choices, and approaches so as to demonstrate themselves as

legitimate. In the light of that, McCullough and Cunningham (2010) established a theoretic outline to recognise the burdens that sport administrations face from interior and exterior stakeholders to renounce their disregard for the environment and for the implementation of environmental sustainability strategies and the potential consequences of such works.

For example, Trendafilova and Babiak (2013) studied environmental sustainability amongst the four key sport associations in North America and found that professional leagues are joining with the National Resources Defence Council (NRDC, a national environmental action group advocating for stringent environmental protection so as to accomplish schemes, structures and procedures by which to involve in greening actions (Trendafilova *et al*., 2014a).

Furthermore, Pfahl (2013) stated that the Green Sports Alliance has also been participating with professional sports to support with and support their environmental practices. The organisation has memberships demonstrating more than 100 sport teams and arenas from 13 sport leagues (Trendafilova *et al*., 2014a).

From a design viewpoint, the drivers of adopting decision-making; time or difficulty for example, designers were obliged to the ownership concerning environmental choices. Numerous other stakeholders, for instance; media, environmental advocates, and political officials have different effects and impacts on decision-making, contributing in the discussion process, but one that is greatly contextual (Kellison and Kim 2014; Kellison and Hong 2015). Eventually, areas like cost savings, goodwill and brand differentiation were significant aspects in possession adopting environmental inventions in sports facilities design (Kellison and Hong, 2015; McCullough *et al*., 2015).

On the other hand, governments are currently paying more concerns to environmental features of sustainable development and it is possible that the regulating necessities will continue to growth. The UK Government is the only government in the world to have set legally compulsory greenhouse gas emission reduction targets in its Climate Change Act 2008; "we must reduce our national carbon footprint by 80% by 2050", with an earlier target of a 34% reduction by 2020 (both targets use 1990 as a baseline) (BASIS, 2011 and Pfahl, 2011a).

The CRC Energy Efficiency Scheme offers a tool for businesses, counting some greater sports facilities and clubs, to decrease their carbon emissions. The new Waste Regulations (England and Wales) 2011 brand it a legal obligation for businesses to track the waste pyramid (prevention; reuse; recycling; recovery; disposal) to lessen the effect of waste management (BASIS, 2011) and (Kellison *et al*., 2014).

Compatibly, in recent years, climate change and global warming issues have become international political and social concerns, touching on politics, an uncertain economy, business and international security. Thus, increasingly obligate towns all over the world to encounter to the challenges of sustainability. Accordingly, governments, non-profit organisations and numerous corporations are progressively adopting "green" initiatives and strategies to move into a more environmentally friendly practice and reduce their associated carbon footprints (The economist, 2013; McCullough and Kellison, 2016).

These seriously growing issues represent a key public policy concern which is the key driver for sustainable development practices, particularly with sports industry. Sports sector has been arguably recognised to be associated with great figure of fans, teams,

with high demand to travelling for competitions, consuming big amounts of materials to construct arenas facilities and other related infrastructures, consuming huge quantities of energy, and produce tons of waste (Basis, 2011).

As to a greater extent of the world's inhabitants populates cities, civic authorities have to rearrange with the difficulties of resource efficiency, flexibility, transportation, environmental quality, social inclusion, economic growth and the health and well-being of residents, (Furrer, 2002; Basis, 2011). At present, we running out of stable energy sources, facing fears of climate change consequences, classes' eradication, combined with increasing human anxiety; all these issues representing key drivers to corporate sustainability measures in the Games (The economist, 2013).

Moreover, temperature increases postures a clear risk to winter sports, in addition to the related challenges to athletes' aptitude to train and compete in already hot countries. Changes to humidity and soil moisture could completely change the game of cricket in England, while more recurrent storms threaten to damage equipment, infrastructure, and force the cancellation of events (Trendafilova *et al*., 2013; McCullough, and Kellison , 2016).

Cohen (2009) argued that leisure centres and facilities, by their nature pose a challenge for the sustainability movement. These industries have a huge footprint, also consume loads of construction materials, and releasing large amounts of carbon emissions. Sport facilities have the prospective to be massive consumers of water and represent great volumes that come with enormous air-handling necessities, incorporate energy controls, and use large spans of glass that can add considerably to the structure's heat usage.

Facilities of these characteristics consume marvellous quantities of energy and generate huge volumes of waste (Cohen, 2009).

Then again, previous studies revealed numerous economic drivers lie beneath involving sustainability within the sports sector. Ries *et al*., (2006) and Stinnett (2013) emphasized the benefits related to sustainable building scheme. Precisely, financial and ecological features appear to be the highest predominant profits. Hence, comprehensive economic performs and environmental stewardship should be main goals for any facility director.

Kellison and Hong (2015) investigated innovation adoption implements interrelated to the environment in arenas design. The study found that there is a key decision-maker leading design matters whether it was a sport body holder or, at the intercollegiate level (McCullough *et al*., 2015).

2.10 SPORTS AS MOTIVATOR FOR SUSTAINABLE DEVELOPMENT

Considerable range of studies argued that sport organisations are progressively becoming motivating in environmental issues and has a lead to increasing attention in sustainable initiatives, as it is associated with a few events that are so strongly entrenched in communities that inspire such passions (Kellison *et al*., 2015; BASIS, 2011; McCullough and Kellison, 2016). Kellison *et al*., (2015) further illustrated that the notion of using key professional and international sport to enhance social change is mostly grounded on the enormous loving spectators interested in these events. Sport events attendant a great figure of audiences and can assist as a board to promote environmental awareness.

Ioakimidis (2007) pointed out that owing to their unique relationships to their customers, sport organisations are situated to be leaders in forming environmental awareness. Inoue and Kent (2012b) examined professional sport teams as supporters of pro-environmental performance and concluded that sport industry is in a major platform to motivate fans environmental performances, amongst other sectors, adding that progressive environmental activates by the team helped in raising the interest to involving in pro-environmental performance in customers' personal activities.

Likewise, a different investigation has concluded that environmental reliability of the team associated with a progressive relationship with customer pro-environmental performance revealed with regular recycling and recycling plans throughout home competitions (Inoue and Kent, 2012b). Nevertheless, that has been claimed by a massive figure of press of environmental, social, and economic sustainability policies, representative progressive impacts bring about enhanced public cognizance improved activities (BASIS, 2011; Babiak and Trendafilova, 2011; Inoue and Kent, 2012a).

2.11 BENEFITS, IMPACT AND IMPORTANCE OF SUSTAINABLE DEVELOPMENT IN SPORTS

Trendafilova *et al*. (2014a) argued that the involvement of sustainable supervision of sport has generated two aspects of environmental measures; to decrease the environmental impacts of sports, and to make-use of sports as a platform to promote environmental cognizance. (Trendafilova *et al*., 2014a), along with these lines Wettlaufer (2010) stated that the green drive has arose as a critical professional practice and facilities that look ahead to be competitive and in the lead of their business are moving forward to participate in this drive. The foundation is moving as conservation leanings become more widespread (Wettlaufer, 2010; Stinnett, 2013).

Numerous studies such as Social Issues Research Centre (2006) (SIRC) and Trendafilova *et al*., (2014b) illustrated that sustainable performs are not only valuable for the ecological system and not only seen as a 'right thing' to do, but also it brings many benefits for different stakeholders. These benefits comprise; better corporate practices, saving money, avoiding legal recourse, as well as their indirect social benefits on the participants and fans, including improved physical and psychological wellbeing, whilst enhancing healthy living and improve quality of life. Moreover, it boost better social associations and enhance a more unified and effective relations in community.

Moreover, the approval of such arrangements offers sport venues and facilities the chance to make savings by moving to more effective and ecologically friendly operating strategies. Despite the growing opportunities for certification and regulations, the sport sectors has situated itself as a lead in the shift and consider it their responsibility to address (ES) environmental sustainability. Greening interventions help sport bodies to lessen their environmental impact of sport and the related activities. Bearing in mind the increasing government works and obligatory requirements for definite documentations (e.g., LEED), it would be helpful for sport directors to make themselves aware of and constantly monitor obligations (Trendafilova *et al*., 2014b).

In view of the results of a research aimed to assess levels of collegiate recreational sports department workforces' awareness and official level of implementation regarding to sustainability creativities, To begin with, the study concluded that the 30 explored green schools cost beneath 2% beyond conventional schools or nearly $3 for each square foot. Next, the study indicated that green buildings delivered economic benefits that were 20 times greater than traditional schools. The fiscal investments were about $70 per square foot. Subsidiary findings showed that outcomes on energy savings were

promising, as sustainable schools consumed an average of 33% fewer energy than conservatively constructed schools.

The energy investments associated to an average fiscal savings of $0.38 per square foot. Common energy routine improvements encompassed lighting that is more effectual, larger use of daylighting and sensors, more efficient warming and cooling structures, and better-insulated walls and roofs. Also results specified an average water use saving of 32% (Stinnett, 2013).

Back to the study explored awareness and implementation levels of collegiate recreational sports department sustainability initiatives, the study findings stated that constructing green schools is more financially sensible and lesser risk than ongoing to build unproductive conservative schools. This could be of specific significance to higher education constructions, counting leisure sports facilities, as funds for capital construction and facility management is apparently constantly an encounter to secure (Stinnett, 2013).

Moreover, earlier investigations (Stinnett, 2013) emphasised the benefits related to sustainable building practice. Precisely, economic and environmental aspects appear to be the most predominant benefits. Consequently, comprehensive fiscal practices and ecological stewardship ought to be principal intents for any facility developer (Stinnett, 2013).

Accordingly the study by Ries *et al*., (2006) aimed to evaluate the benefits of green buildings and to explore the relationship between sustainable building construction and key improvement areas, counting; improvements in workforce production, reductions in

health and safety expenses, enhancements indoor environmental quality (IEQ), decreasing maintenance charges, and further savings in energy and water usage.

The outcomes specified that workers commonly were more satisfied with the sustainable buildings; and agreed that the enhanced indoor environmental quality (IEQ), helped in improving the working conditions, thus generated greater productivity. Additionally, the results stated an energy use reduction of around 30% per square foot in the green designed buildings compared to the conventional construction (Stinnett, 2013).

Sports club usually expends about 30% of its running costs on energy, and about £10,000 each year on electricity alone. By moving into a more sustainable strategy, energy bills can be lessen by 10-20% which means around £2,500 savings annually, this could benefit and enhance sport (Sport England, 2016), e.g. Kirklees active leisure achieves a 25% reduction in its carbon emissions, by reducing its CO2 emissions by 25% between 2009 and 2014. Also Hemyock Football Club is expected to achieve a reduction in the club's electricity costs of at least 60% per annum across its lifetime. As well as the money savings by using sustainability initiatives, it also can offer valued social and environmental profits to all shareholders (Sport England, 2016) and (Trendafilova *et al*., 2014a).

2.12 KEY CHALLENGES TO SUCCESSFUL SUSTAINABLE PRACTICE IN THE SPORTS SECTOR

Reviewing the current literature regarding sustainable development practice showed numerous examples of sport organisations at the professional and academic levels employing environmental sustainability strategies (NRDC, 2012, 2013). Yet, sport organisations managers have shown limited levels of collaboration and cooperation with

external organisations (e.g., vendors, campus sustainability offices) to enhance the powerful social capital of their sport organisations to execute practical environmental measures and strategies and to prove an effective commitment to decreasing the structure's environmental impact (Pfahl *et al*., 2015; Pfahl, 2010).

Intrinsically, it appears that sport professionals have applied lowest levels regarding the first movement of sustainability measures, and now have to apply stronger initiatives to promote their environmental sustainability works (McCullough *et al*., 2016). The subsequent stage that sport organisations have engaged in their sustainability measures is to involve sport fans to enhance better implementation and to lessen their large impacts on the environment (Casper and Pfahl, 2012; Casper *et al*., 2014; McCullough, 2013; McCullough and Kellison, 2016).

The United National Environmental Programme (UNEP) (2010) warns sport directors about the challenges of involving sport fans to decrease their impacts of organisations or event's environmental impact. McCullough (2013) proposed that fan identification can rise and promote sustainable behaviours amongst fans. However, previous research has not clearly investigated this link (McCullough and Kellison, 2016).

Consequently, in spite of the fact that the environmental impact of sporting activities is mostly associated with sports fans and spectators, compelling sustainability initiatives upon sports fans may alienate them, (McCullough and Cunningham, 2011; McCullough and Kellison, 2016); so that organisations should be cautious about the way they involve their fans in. Initially, organisations should start with educating and raise fans' levels of awareness regarding environmental concerns and challenges, so as to make

them encouraged, hence greening activities will not be seen as burdens on them, whilst emphasising that they can be a big power to implement sustainability initiatives.

In spite of these challenges, sport organisations are emerging approaches and movements to rise sustainable initiatives amongst their sport fans (Kellison and Kim, 2014; Pfahl, 2011b). Accordingly, sport administrations, non-governmental organisations, and scholars have started to investigate sport fan behaviours, and fan involvement initiatives. Casper and colleagues (2014) stated that sport structures use green games as a platform to involve fans and enhance their awareness levels regarding sustainable behaviours while enjoying sporting activities (McCullough and Kellison, 2016).

Consequently, Sport facilities owners and other main decision-makers may be unwilling to employ overall sustainable procedures owing to obvious cost worries (Kellison and Hong, 2015). As stated by expected cost premiums for sustainable buildings (Nyikos *et al*., 2012) and the typical costs of MLB, NBA, NFL, and NHL facilities from 2000-2013, the additional expense of sustainable initiatives in professional sports arena design is assessed to be about $16.4 million per facility. Known this significant expenditure, owners determined on establishing their teams' environmental stewardship may favour less expensive choices for example recycling programs or local food tracking (McCullough and Kellison, 2016; Kellison, 2016).

Then again, certain interior obstacles may also barrier an organisation's capability to implement eco-friendly initiatives, counting inadequate economic capitals, low levels of workers participation, the lack of environmental professionals, and a lack of time (Pfahl, 2010). The occurrence of these institutional obstacles appears specifically

probable in the structures of small professional sport teams. Consequently, there is a low possibility that a front office of a double-A baseball team has the ability to employ a devoted sustainability work team, owing to their limited fiscal and human resources (Trendafilov *et al*., 2014a).

Trendafilov *et al*., (2014a) argued that policy makers, business possessors, and local residents may face obstacles when trying to execute pro-environmental approaches. In some circumstances, these obstacles are managerial; counting the lack of management with knowledge on green practices, too little workforce members to implement a plan, and an absence of fiscal capitals. Additionally, Scannell and Gifford (2010) added that psychological and emotional barriers may be the reason in some circumstances. For instance; people' distrust in local decision makers or their lack of attachment to the nearby ecological system.

Apathetic and adverse viewpoints concerning the value and usefulness of eco-friendly initiatives are great obstacles that ecological promoters encounter. In line with Quimby and Angelique (2011), thoughts of apathy and hopelessness can arise when people think that their initiatives will not be successful to generate positive profits to the environment. These attitudes may be particularly noticeable in small societies where individuals are likely to know that their greening activities will be thoroughly offset by the vast carbon footprints of growing local economies and developing countries out of the country (Irvin *et al*., 2008). Therefore, local communities are seen to be less motivated to promote pro-environmental approaches if they recognize the drive of concentrating on significant concerns like, climate change; a problem which cannot to be resolved by small city initiatives. Trendafilov *et al*., (2014a) claimed that local

communities are also resistant to sustainability initiatives if the strategies are apparent as threatening to domestic industry.

In a similar context, Finewood and Stroup (2012) indicated that people keen to the larger individual prosperity or local economic growth may boost them to exploit their natural and non-renewable resources. For instance, in small manufacturing cities where factories are the key centres of jobs and commercial movement, new eco-friendly rules may confine business procedures; as local communities in tracking their personal self-interest might not be concerned about the broader interest. For instance, they may fail to consider the exterior impacts of their movements (Trendafilov *et al*., 2014a).

The results of Williams and Dair's (2007) study aimed to identify 12 barriers to implementing sustainability in development schemes, on five newly accomplished projects in England concluded that the barriers recognized by the stakeholders in the arrangements comprised a lack of deliberation of sustainability procedures, actual and estimated costs, and insufficient knowledge and powers. The study also illustrated that without stakeholders awareness of the practical difficulties of executing sustainable development strategies, a green construction environment is improbable to realise.

2.13 CURRENT ISSUES ASSOCIATED WITH THE SPORT SECTOR SUSTAINABLE DEVELOPMENT PRACTICE

- **Sports sector lag behind other industries**

Although the concept of sustainability has widely been involved in most types of buildings and facilities; the trend for sustainable practice, implementation of greening strategies and philosophies in the sports industry delays behind (Casper *et al*., 2014; Kellison, 2016). Sports have been late in implementing sustainable practice measures

and operating their business in a sustainable way, by around ten years late as shown by a long-time sustainable development professional (Kellison, 2016). Corresponding to objective facility-certification metrics, not more than 40% of new professional sports arenas built from 2006-2013 combined main sustainable strategies (Kellison, 2014).

In agreement with that, Gonzales (2009) stated that fitness, health, leisure facilities, recreational, and sports amenities drop behind other types of these facilities with sustainability strategies in mind. However, there is no obvious reason illustrates why sports industry has lagged behind other facilities and buildings. In the commonplace procedures, there are a many of strategies that operatives can employ to indorse sustainable practice (Stinnett, 2013).

- **Financial Sustainability**

With continual pressure on public funding, it is becoming crucial that the available money is expended in the most wisely way. In view of that, organisations that are mainly dependent on public funding for their survival are progressively at risk and consequently less capable to plan and provide over the long term, and hence, they need to reduce the over-reliance on public funding to a more sustainable mixed-funding approach to protect themselves from the risk of alterations to that source of income. Following the notion of diversification of Funding, Some sport organisations have conventionally been good at discovering and exploiting the probability of some substitute income streams, e.g. sponsorship and selling media rights, however there are further ranges, for instance philanthropy and fundraising, or partnerships with the private sector that have not been completely utilized yet. Alike, the limited available public funding will need to be shared even more cautiously in future. Sport England and UK Sport will participate with the organisations they supply to approve strategies to get

back office and efficiency reserves where applicable, and deliberate transfers to communal amenity models throughout the next investment cycle starting in April 2017 (Sporting Future, 2015).

- **Information Technology (IT) and sustainability**

Sustainability in an organisation can be reflected through the adoption of some measures or initiatives which can be effective to decrease the business's carbon emissions, or to reduce their resources consumption.

According to the Climate Group, a UK-based non-profit organisation that promotes business and government leadership on climate change, Information technology (IT) is not itself a major aspect of the problem, since it is appraised to contribute only a minor proportion (only 2%) of global carbon emissions. However, it can act as a great fragment to host the solutions by assisting business to more environmentally sound.

Inclusive IT utilisation can deliver various benefits, along with operational issues; counting datacentre optimisation, teleworking, and etc., organisations are now making best use of IT knowledges to facilitate sustainability initiatives through the business in new regions, comprising fleet management, paperless billing, telecommunications, manufacture and facility supervision, and so on. IT has already facilitated different businesses in their move towards energy conservation, which has been achieved through the leverage of numerous IT capabilities comprising; automatic lights or computers shut off at set times, setting room temperatures to an automated schedule, bring significant savings. For example, US carmaker Ford Motor is decreasing the number of its data centres from 20 to 6, to attain savings estimated to millions of dollars, in this case, IT

has a vast role concerning reducing its consumption and using IT assets more efficiently to cut down the carbon footprint (The Economist, 2009).

IT also has a significant role to play to overcome sustainability implementation barriers and challenges, as, despite the efforts employed to leverage IT to facilitate sustainability, numerous challenges emerged encountering sustainability promoters, comprise initial costs, the occasionally long-lasting times before businesses realise a return on investment (ROI), assuring transparency and good governance through all sustainability initiatives to certify that strategies and policies are followed and aims are achieved, and the necessity to maintain with speedy technology and to rehabilitate workforces, about the benefits of sustainability.

In order to achieve successful implementation, strategists should address how all objectives, ranging from electricity usage reduction to carbon neutrality, can best be sustained by IT systems, and how technology can contribute an fundamental part in the business's long-term strategy to reduce its carbon footprint (The Economist, 2009).

Furthermore, successful implementation necessitates cooperation between different business stakeholders; this is where telecommunication can play a significant role, taking into consideration the obvious resistance to change old habits and the need to an obligation from the top levels of the business to arrange for leadership, governance and transparency.

To conclude, it may not be obvious, but IT has a strategic role in sustainability, IT is fundamental in sharing information and empowering executives, employing IT in tracking and logistics can have vast pay-offs. IT is essential to handling emissions from

buildings, the key source of greenhouse gases. Going paperless eliminates waste and pollution on multiple levels. Businesses will progressively name directors with sustainability portfolios. Triple bottom line reporting will gain importance (The Economist, 2009).

'United to Switch Off and Save' at Manchester United Football Club (MUFC)' The Club's environmental journey was launched in 2000, concurrently with the construction of The Trafford Training Centre at Carrington; which has demonstrated great sustainability practice.

At the moment, the club holds numerous eco-standards, counting; Carbon Reduction Commitment 2011, ISO14001 for establishing an environmental management system, the Carbon Trust Standard for Energy Efficiency and Carbon Reduction, ISO20121 for Event Sustainability Management recently awarded prior to staging Olympics Football events at Old Trafford, and Green Tourism Business Scheme; awarded the Gold Standard for environmental best practice to the Manchester United Museum and Tour Centre and the Red Café. The Club also has completed the installation of latest technologies including the remote monitoring of energy use and plant operation. Additionally, the Club works in collaboration with (Waste and Resources Action Programme) WRAP, on a scheme to inspire their suppliers to embed environmental strategies concerning resource efficiency.

Along the lines of that, the club has launched their energy efficiency programme 'United to Switch Off and Save' to encourage their staff members to work as energy champions and advance energy efficient activities at work. IT plays a key role in the implementation and the success of this campaign, as it is intensely operated and

supported using the Building Energy Management Systems to manage the computer based control systems (The Economist, 2009).

As a part of the overall sustainability strategy, and to work in accordance with West Midlands aspiration to introduce and implement a MaaS (Mobility as a Service) proposal, it is recommended to link a MaaS proposal to a sports sustainable transportation scheme. As to encourage more cycling, the MaaS package can include the monthly, or yearly, access to gym or sports club, as well as the cycling, or public transport access. The proposal can be promoted by an encouraging challenge with a reasonable award or prize.

2.14 SPORTS AND SUSTAINABILITY IN THE INTERNATIONAL CONTEXT

- **UK sports sector sustainability issues**

The literature review of the current sustainability initiatives within the UK sports sector indicated that most authorities within the UK have developed sustainability strategic planning initiatives, with distinct present situation, barriers, and key issues. However, these strategies are not fully implemented in action. Main concerns addressed comprised the development of extra environmentally–friendly arenas, and enhanced public transport to inspire fans to use it instead of their private cars (Jenkins, 2012, Babiak and Trendafilova, (2011) and, Mallen *et al*., 2011a)

Table 2.3: Five key areas of environmental sustainability addressed by premier league clubs in the UK

Waste	In the form of waste reduction schemes, recycling and the use of recycled materials.
Energy	Reduction programmes such as zone-controlled heating and lighting, movement sensors, voltage optimisation equipment.
Water	Minimisation measures such as limiters on taps, borehole water sourcing for irrigation.

Transport	Travel plans aimed at increasing the use of public transport to the stadium and reducing the use of cars.
Supply chain	Beginning to implement some local sourcing.

Source: Jenkins, (2012)

In England, for example, Manchester United has been decreasing its energy usage long-ago before the government announced the Carbon Reduction Commitment Energy Reduction Scheme. The English club is at present in the development of rereading the newest technology in sustainable energy with the intention of sort advance energy savings (The Guardian, 2014).

Gloucestershire-based football club Forest Green Rovers newly suited the proud owner of the UK's first organic football pitch. Over the last years, the club has succeeded in cut all nitrogen-based manures and chemicals from its ground maintenance. The clubs uses more organic treatments although their higher expenses, as they believe that these process saves money in the long run by having healthier soil. Additionally, the extra up-front charges of turning organic are counterbalance by savings on the energy bills due to the fitting of 170 photovoltaic panels, which boast a capacity of 45kW (The Guardian, 2014).

Nonetheless, several measures could be considered in order to enhance best ES within the UK's sports sector, to start with; industry directors should make the most of existing facilities to enhance the efficiency and productivity of the sports sector. Schools are one of the main holders and operatives of sports assets, however, it has always been debated that more efforts and measures should be developed to make their facilities obtainable and available to local communities and clubs to use outer of school times. While, others argued that there is no necessity for new mandatory regime. Schools and colleges need to be provided with the appropriate knowledge and resources to enhance the usage of

their facilities to achieve for the common advantage for them and their communities. Simultaneously and where possible local facilities should also be available for schools in addition to the wider community (Sporting future, 2015).

Consequently, Sport England will review take up of and engagement with its "Use our School guidance40" in 2016 to ensure that sports facilities owned by schools and colleges are used as effectively as possible and are available to a broad range of community sports groups (Sporting future, 2015).

In view of London 2012 Olympic Games; the Games which represents an iconic example of sustainable mega events development, additionally, demonstrated an informative sample for policy study for three reasons: the bid was based on the assurance that the Games would be a tool to stimulate the country to shift for a more physically active and to challenge broader social and economic matters such as exclusion, fatness and unemployment; it was be the first event that Games and legacy preparation has worked together; and, any heritage study is integrally political. Definitely, London 2012 organised an ambitious, yet estimable aim foreseeing considerable social change (Girginov, 2012).

Referring to Sport-Scotland Sustainability Annual Report for 2014/15, the report revealed how Sport-Scotland is demonstrating a positive contribution to the carbon reduction agenda. However the clearly stated failure to attain its annual carbon reduction targets since they were set in 2009, In 2013/14 Scotland, realized a 24% carbon reduction on the former year and in 2014/15 delivered additional 4% carbon reduction (Sport Scotland, 2015).

The report emphasised a full financial year's operation of the Biomass Heating and Hot Water solution at Glenmore Lodge. Besides to considerably dropping heating expenses, the income in 2014/15 from this source was just over £27k. Nevertheless, generating 12863 kw from the SolarPV systems at Caledonia House, Inverclyde, Cumbrae and Glenmore Lodge which likened to over £6k of income during 2014/15. Then again, investments sustained to be attained throughout the year as a result of the substantial water use reduction actions carried out in association with the Carbon Management Plan, such as, leak detection schemes, lessening in meter sizes. Participation in the national framework agreement, combined with other services also resulted in further continuing yearly savings of over £15k through all held locations (Sport Scotland, 2015)

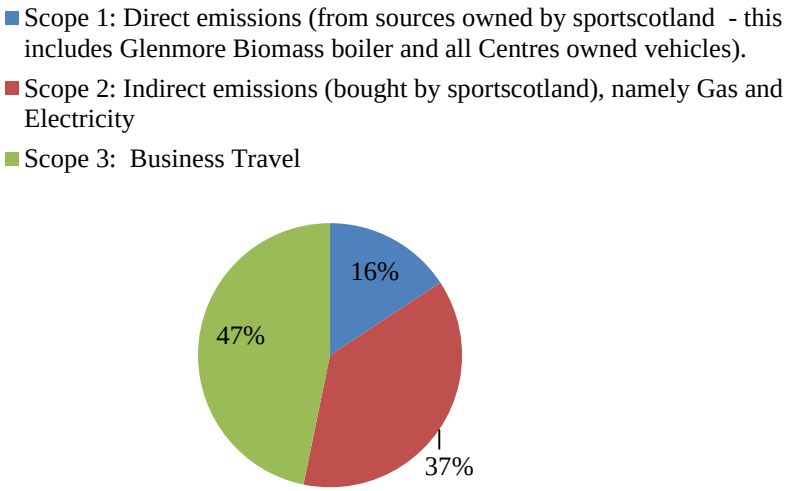

Figure 2.1: Carbon emissions 2014-2015

Source: Sport Scotland, (2015).

- **The US**

The US leads a current trend aiming to mandating the newly created sport facilities to include green initiatives. Bearing in mind that over $5 billion in public funds has been spent in the building of new sport facilities in the US since 2000, rules are obligating that new arenas reflect specific environmental criteria. One such obligation is the LEED (Leadership in Energy and Environmental Design) certification for facilities, outlined

by the United States Green Building Council (USGBC). Numerous teams have attained LEED certification for the facilities wherein they play (Kellison *et al*., 2015).

However, the argument that the cost of constructing a sustainable facility is almost 10% higher compared to the not intended to be certified one. Yet, this expenditure is believed to be valuable, bearing in mind that it aids to accomplish the greening requirements. Likewise, the Washington Nationals of the MLB are playing in a new LEED Silver certified sustainable arena that the DC Metro Council obligatory as step in their financial involvement (Babiak *et al*., 2014).

Based on Marquette University's National Sports Law Institute, more than 80 teams across the Major League Baseball (MLB), the National Basketball Association (NBA), the National Football League (NFL), the National Hockey League (NHL), and the Women's National Basketball Association (WNBA) have several arrangements of sustainability strategies. Furthermore, over 40 key sports facilities have been acknowledged for green schemes by the U.S. Green Building Council meanwhile their certification platform commenced in 2008 (Kellison, 2014).

Recycling plans, in-stadium signs, and sustainable game advertisings all assist to decrease waste at sporting occasions, and more essentially to raise the levels of awareness of green initiatives amongst audiences and how persons can take on sustainable actions in their lives (Casper *et al*., 2014). Provision of these creativities may be recognised as a measure to the notion that sports bodies' sustained consideration on the environment may stimulate the public to implement eco-friendly performs in their daily lives (Kellison and Kim, 2014 and Kellison *et al*., 2015).

Motorsport is a sector that is generally well known and is encountering growing burden to decrease resource depletion and to function in an ecologically sustainable way. The National Association for Stock Car Auto Racing (NASCAR) and its participants have pledged to environmental sustainability (ES). NASCAR's 'Race to Green' scheme is the outcome of closely five years of efforts committed to adapting the sport in environmentally friendly way as much as possible and calling its business promoters, tracks, teams and fans to participate. The Scheme permits fans to plant trees in zones of need crossways the United States. Moreover, NASCAR has the biggest and most varied recycling schemes in sport and the world's most noticeable bio-fuels strategy, accompanied by the largest solar-powered sports facility in the world (USA TODAY, 2013).

Nonetheless, throughout the construction and operations of one of the latest race pathways in Austin, Texas (COTA), ecological initiatives were thoughtfully planned and executed, such as purchasing carbon offsets to attain carbon neutrality and controlling the on-site parking spaces to 25,000. Furthermore, create air quality analysis, inventory, modelling and easing, land protection and renovation of all concerned areas. Last of all, plans are ready to use the race track for different forms of public activities and as a platform for raising public consciousness for sustainable energy and transport (USA TODAY, 2013).

- **The EU Sports Sustainability**

The EU has demonstrated high levels of strategic planning and sustainability performance measures within their sports industry. The UEFA EURO 2016 for example, as a global event integrates large figure of activities and events, with high transportation, logistics, lighting, catering, merchandising, and communications

demand. As a result, it brings about huge environmental impacts, counting air pollution, natural resources consumption, and a major contributor to climate change (UEFA EURO).

The UEFA EURO 2016 organisers have appointed independent consultants to develop an integrated assessment of the event's environmental footprint. In compliance with the London 2012 and Rio 2016 Olympic and Paralympic Games, the concepts of importance, completeness, consistency, accurateness and transparency are vital components. Developing EIA offers an important indication of the event's major impacts and how organisers can work in cooperation with stakeholders to outline and execute tangible action plans to lessen these impacts (UEFA EURO).

The organisers tended to establish a more comprehensive life-cycle assessment approach compatible with the ISO 14040 and 14044 environmental management standards. Hence, the assessment not only concerned with carbon footprint and the tournament impacts on climate change, but also covers other environmental impacts such as natural resources consumption. The overall environmental footprint results indicated that the main contributors of the environmental impact are associated by activities not under the direct control of the planners.

Bearing in mind the long-term investments in infrastructure renovation and construction, the obligation is shared amongst numerous stakeholders over a long period of time. Additionally, the outcomes showed that the emissions from fans travel and the purchasing of food and drink at sites, are major contributors, thus, these issues are being addressed by taking concrete action plans (UEFA EURO).

In order to ensure a green tournament, the organisers have established many measures counting both new and renovation works, in addition to the whole life activities of the event. To start with, the planners decided to produce all kinds of branded merchandise by UEFA EURO 2016 licensees. Additionally, all renovation and construction schemes are subject to a variety of sustainable development guidelines. Taking into account the importance of exchange of information, the planners of UEFA EURO 2016 have settled mechanisms that inspire the positive environmental performs between the different schemes; that can be achieved either by site visits or publication of a newsletters. The Stade de Nice has been particularly intended to lessen energy consumption, by encouraging the most use of daylight and using natural ventilation.

Additionally, renewable energy sources, solar panels, and wind turbines have been integrated into many stadiums, e.g. the Stade Vélodrome in Marseille. Extending works have been completed in the tram network in Bordeaux to offer direct access to the stadium from the city centre; whilst offering public transport accessibility to all ten stadiums. Other measures counting; rainwater collection systems, automated energy management systems are also in place. Last of all, The Stade Vélodrome uses a wastewater treatment plant (WWTP) heat recovery system (UEFA EURO).

- **Italy**

Away from the UEFA EURO 2016, the Italian soccer league Serie A clubs are also been contributing in environmental innovations. E.g., Genoa CFC has established activities on environmental education in collaboration with Amiu, the local corporation accountable for waste management in the city. Furthermore, the club have recycling strategies. Many other clubs scheduling on using renewable energy and also inspires fans to ride bicycles (The Guardian, 2015).

- **Barcelona**

The new FC Barcelona 2014/15 home kit is designed by Nike, which places environmental sustainability as a fundamental concern to their manufacturing practice. Nike uses recycled polyester and recycled plastic water bottles to lessen their environmental impact; of which mostly have been diverted from landfills. Using recycled polyester not also benefit in reducing landfill, but also reduces the energy consumption up to 30 % throughout the whole process (FC Barcelona, 2016).

- **Real Madrid**

In accordance with their sustainability strategy, Real Madrid upgraded its 11 training fields with a new generation recycled turf; with the advantages of the fact that they never need to be watered, mown, or doused with pesticides. Additionally, the old pitches were reused in schools and sports clubs in the area (The Guardian, 2014).

- **FC Bayern Munich**

The one of Germany's high-ranking football teams is installing 380,000 energy-efficient LEDs to generate an enormous "light show" at its Allianz Arena stadium.
According to Phillips, Bayern Munich's official "lighting partner", the plan will be 60% more energy efficient, demonstrating a saving of about 362 tonnes of carbon dioxide per year than the conventional lighting presently used (The Guardian, 2014).

- **FIFA**

President of FIFA2 Joseph S Blatter specified that "the game (football) had been developed and taken to the world and now it's time to use football to make the world

better". In the light of that, numerous initiatives are being accepted by the soccer teams in Europe.

The Fédération Internationale de Football Association (FIFA) World Cup is considered the major sporting competition in the world; hence its impact on the environment is incontestable. FIFA and the Local Organizing Committees (LOC) take the responsibility and seek to lead by example to conserve and protect the environment; therefore they have been concerned to involve environmental safeguarding since 2005 by the establishment of the Green Goal environmental program for the 2006 FIFA World Cup, aimed to minimising their impact on the eco-system as much as possible (FIFA, 2014). Recently, FIFA's environmental programme branded "Football for the Planet in 2013," which signifies its pledge to lessen their operations impact on the environment and to use their activities to promote awareness of environmental concerns (FIFA, 2014).

Based on the knowledge obtained from the FIFA World Cups since 2006 and after the materiality analysis, environmental conservation actions were dedicated to transportation, waste management, and procurement, in addition to climate change and carbon offsetting by introducing low-carbon schemes. Consequently, and throughout the 2014 FIFA World Cup, recycling was encouraged within the arenas and a training programme was explicitly established to strengthen the sustainability involvement of stadium managers, counting water and energy saving procedures (FIFA, 2014).

- **Asia/ Malaysia**

According to the 2014 report for sustainability initiatives of the International Federation of Muaythai Amateur (IFMA) on Muaythai World Championship / Junior

Championship in Langkawi, Malaysia, where athletes from around the world, (101 countries) compete took place to share their skills in the essence of honour, tradition, respect, excellence and fair play.

For IFMA, sustainability indicates handling the social, economic and environmental impacts and opportunities of our World Championships to deliver long-lasting profits, both locally and globally. The term sustainability also comprises five significant values or pillars for the IFMA, counting; Honour, Tradition, Respect, Excellence, and Fair-play.

The IFMA had adopted different initiatives to reduce their environmental footprint counting; performing carefully and smart site selection, minimizing waste, and offsetting negative impacts.

Additionally and at social context, the IFMA addressed their personnel, athletes and different stakeholders' needs and interest, in order to enhance communities economic, giving back to the community through CSR, offering improved training and education (IFMA, 2014).

- **The United Arab Emirates (UAE)**

The Government of UAE aimed to become an environmental performance and sustainability regional leader, with specific focuses on creating a safe, sustainable, and economically advanced environment, through setting plan comprises numerous programmes concerning several areas including; social and economic development, infrastructure, environment, security, and justice. The plan is proposed to play a key role in attaining a vision for a "confident and secure society and a sustainable and

competitive economy", whilst working in accordance with the aspirations of the UAE leaders; “The excellence of work system, achievement of sustainability, improvement of the government system efficiency, and meeting the current needs and future requirements require continuous review of policies and performance," (The National, 2016).

All employees must work efficiently and effectively in order to accomplish these aims and the comprehensive development. Additionally the plan is perceived as stimulation to the performance of non-oil sectors and achieves cooperation among the government agencies by directing them towards clear and specific goals to meet the needs and aspirations of the Emirate (The National, 2016).

In the light of that, “Estidama” is an integrated framework formed by the UPC Abu Dhabi to guide the practice of sustainable development within the Emirate. The framework attempts to guarantee that sustainability is commonly addressed through four key pillars: environmental, economic, social and cultural (Estidama, 2016).

Al Saada Park- Dubai: The Al Saada Park at Dubai Ladies Club is a world-class activity park, represents a scale model of a smart sustainable activity park that uses sports to promote sustainability; whilst adopting best international practices in energy usage, efficiency and the sensible management of natural resources. The clubs’ strategy relies on the fact that Sustainability is one of the key pillars of a smart city and sport is a vital aspect for people’s happiness and enhanced society.

The Al Saada encourages sustainability by developing innovative sports equipment that transforms kinetic energy into electricity and stores it in special units; that can be used for different purposes, counting; charging phones and smart devices, lighting, cooling

water, or other personal devices. It club's strategy works in accordance with Dubai's intentions to battle obesity and provide a healthy environment for all. Hence, promotes a culture of exercise as well as, raises environmental awareness.

Al Ain Football Stadium: Located in Al Ain; the fourth largest city in the United Arab Emirates, the stadium has been planned within minimal aesthetic and environmental impact on the surrounding area. Inspired by the ancient Greek stadia built into the sides of hills and mountains, the stadium is aimed to blend into the side of Jebel Hafeet in Al Ain. Sustainability positioned a key part in the design and location of the Rock Stadium in Al Ain. The designers aimed to use the material excavated in the stadium's construction for other parts of the project, whilst the sunken structure will lessen the desert sun's impact and cooling costs. The stadium was designed in the compatibility with the frameworks and standards of the charming city of Al Ain (AESG, 2016).

Al Ain Ladies Club: It is high quality and Environment-Friendly club, designed and operated in agreement with best international specifications and standards that promote energy and resources preservation, and contribute to enhanced use and conservation of multiple energy sources, compliant with the Abu Dhabi Economic Vision 2030, which considers environmental sustainability a significant implementation aspect. The club was completed in 2015, demonstrating a landmark in the practice of empowering, support and motivating the social and sport presence of UAE women.

The club is located in an easily accessible, vital area, allowing visitors to effortlessly reach the Club. Additionally, the architectures and designing teams committed to use environment-friendly materials to embed sustainability factors and render the building as a simulating learning environment, this came owing to the club's sensible

leadership's care to accomplish prosperity, deliver a decent life and ensure prosperity and well-being for all citizens.

UAE Motor Sports: The UAE has become the third country in the world, and the first in the Middle East, to obtain the highest official recognition available for efforts to reduce the impact of motor sport on the environment. A comprehensive series of sustainable development initiatives has been successfully implemented, in line with the global environmental goals of the FIA (Fédération Internationale de l'Automobile), motor sport's governing body, which it represents in the UAE.

The sustainability move was intended to decrease the Automobile and Touring Club of UAE ATCUAE's own impact, whilst promoting environmental awareness and responsibility amongst other motor sport shareholders in the UAE, along with the hundreds of volunteers essential to events operating (MEinfo, 2015).

2.15 LEADING CHANGE TOWARDS SUSTAINABILITY

Currently, our societies face increasing challenges in many areas counting; social, economic, and environmental matters. Market-based organisations have significant roles to play in addressing these challenges by motivating transformational developments to improve social well-being, in other words, to create positive social change (PSC). Previous efforts in this context including different popular management perceptions for example "shared value" (Porter and Kramer, 2011), "inclusive growth" (George *et al*., 2012), and "base of the pyramid" (BoP) markets (Prahalad and Hart, 2002) reveal this possibility and associate a variety of structural actions with PSC (Stephan *et al*., 2016).

Management research on these areas is getting higher but still fragmented. It mainly emphases interior organisational undertakings and not often focuses how these actions may have outer impacts inspiring public well-being outside organisational borders. The comprehensive research on corporate social responsibility (CSR) emphases mainly on identifying drivers and circumstances make businesses employ socially responsible approach and in what way this movement impact their fiscal performance (Carroll and Shabana, 2010; Stephan *et al*., 2016).

Organisations in the sport and recreation sectors have need of a resource based vision as much as traditional business organisations. Therefore, sport and recreation professionals can enhance competitiveness, increase profits, and achieve reduced costs in environmentally conscious techniques (Hart, 2005). Organisational directors can depend on unique capabilities, skills, tacit capitals (i.e., skill based, relationship orientation), and publicly compound resources (i.e., environmental knowledge) to deliberate environmental matters (Hart, 2005).

2.16 LEADERSHIP AND STRATEGIC ISSUES ASSOCIATED WITH EMBEDDING SUSTAINABILITY IN THE SPORTS INDUSTRY

Kellison *et al*. (2015) argued that in an attempt to promote their obligations to the environment, numerous sport organisations have shaped campaigns that display their greening initiatives. Moreover, sport directors have taken strategic approaches to advance ecological cognizance amongst sport fans and community members. These approaches comprise developing interior, cross-functional greening teams and using them to form environmental vision and mission declarations, funding for facility retrofitting, produce sustainability team strategies, encourage spectators to practice more environmental performs and initiatives, and offer facility trips to the public (Pfahl, 2010).

On the other hand, Inoue and Kent (2012) indicated that the obligation to environmental sustainability is not a separate effort, but somewhat a long-term commit. It is imperious that a strategic plan be executed in action so as to receive legality and gain the trust of sport audiences (Inoue and Kent, 2012a; Kellison *et al*. 2015).

McCullough and Cunningham (2010) consistent with Pfahl, (2010) pointed out that a strategic approach can help sport organisations to make the most of their initiatives to encourage and raise levels of sustainability awareness of different stakeholders, including; staffs, promoters, fans, and public community (McCullough and Cunningham, 2010 and, Pfahl, 2010). Sport organisations at the academic and professional levels have leveraged these agendas in three main areas: visible initiatives (e.g., recycling), communication and reporting (e.g., website), and learning programs or interferences so as to inspire cognizance and behaviours of stakeholders (Kellison *et al*., 2015).

Kellison *et al*., (2015) clarified that further than the visibility of these strategies and initiatives, sport organisations can then prove the values and effectiveness or outcomes of environmental initiatives by means of reporting and communications. However, Mallen *et al*., (2010) highlighted the importance of standardising and setting guidelines to these reports and argued that inconsistencies amongst different reports framework can bring complexity and confusion which increase as companies, and lead to many limitations, concerning the efficiency of these reports at higher levels as they don't reflect comprehensive measures (Mallen *et al*., 2010).

Endeavours to standardise report procedures and establish holistic visions of environmental effect may aid to resolve the matter (Environment Canada, 2005; Xie and Hayase, 2007). Major result of these efforts is the establishment of the Leadership in Energy and Environmental Design (LEED) program, the Global Reporting Initiative (GRI), and the International Standard Organization (ISO) standards (Mallen *et al*., 2010).

In contrast, numerous studies argued that environmental sustainability (ES) does not seem to be addressed in a strategic approach at most UK football organisations. The results from the secondary research conducted by Jenkins (2012), followed by interviews with seven Premiership Clubs, aimed to explore in what way Premier League Football Clubs are addressing environmental sustainability issues within the CSR framework, the results proposed that any measures that are applied are implemented on an unplanned basis. Few clubs have environmental strategies, and less still report on their environmental strategies and measures. Additionally, the interview data affirmed the same belief. Four of the clubs reported having an environmental policy. Only one club reported on its environmental measures, which was enclosed in a broader CSR report (Jenkins, 2012).

Green leadership is characterized by the appointment of a high level management position person. Whilst in some cases, extra greening responsibilities are assigned to an existing staff person (Pfahl, 2010). The developing environmental matters in sport are frequently addressed by the use of cross-functional teams, however the absence of previous cognizance and awareness of many administrators in this industry make it harder to establish and to manage such a team (Casper *et al*., 2010; Hums, Barr, and Guillon, 1999; Godfrey, 2009; Thibault, 1999).

Numerous sport and recreation managers responsible for environmental procedures are attempting to act in accordance with guidelines and standards (e.g., governmental standards) whilst incorporating environmental concerns into everyday routine (e.g., recycling at a venue). These activities reveal overall CSR values, nevertheless are not essentially included into wider structural strategic planning practices (Sheth and Babiak 2009). Such a cross-functional team targeted to any number strategic arrangements (e.g., product development teams), the sustainability teams are permitted and controlled by several internal and external elements.

Pfahl (2010) claimed that, traditionally, organisations competitive advantages key competences and resources did not obviously include their ecological issues; this fact has been stated by the findings of a resource based view. However, considering environmental matters in organisations' strategic planning assists their leaders outline strategies and measures planned to enhance success in both immediate and enduring strategic planning (Hart, 2005).

Most sport and recreation administrations establish a sustainability team as a key feature for strategic interventions to a structure's environmental strategies, to confirm proper operation and managing, afterwards, both the sustainability team in collaboration with organisation's managers can align their efforts to further operational aspects e.g., budget reviews, and strategic planning for team actions. The cross-functional sustainability team is typically involving internal structural memberships from across the organisation, these members are often in charge of establishing and managing a range of operating interventions, organisational strategies, and daily/strategic performs, in other words, they represent the leaders of strategic environmental changes (Pfahl, 2010).

Moreover, because every sport or recreation organisation is unique in its resources, management, size, assets, and stakeholder's relationships, the corresponding sustainability team composition and actions will vary from one to another (Pfahl, 2010) Planning is a crucial aspect for sustainability strategy successful implementation, hence, it is essential to a sustainability teams to form a strategic planning schedule so as to support track and measure progress of team goals. These calendars should cover long and short term efforts, different levels of management, whilst integrating sustainability strategic strategies into the overall organisational planning procedures. Correspondingly, London 2012 Olympic and Paralympic Games represents an excellent example of the long-term planning for sustainability in sports organisations and events, whilst intended time period covering the period from 2006 through 2020, eight years later the Games accomplished (Pfahl, 2010).

2.17 SUMMARY

This chapter examined how sport industry is embedding sustainability strategies to deliver a number of strategic benefits and enhance their competitive advantages. Sport organisations have great influence on the natural environment. Sport fans and spectators are key contributors to these influences. Preceding research has verified challenges and difficulties of involving sport organisations fans in sustainable activities.

Given the advantages of communicating CSR and environmental sustainability strategies for both sport organisation and community, sport organisations need to leverage vital stakeholders in this movement, counting: the media to link the importance on the environment and to teach fans and collaboration with providers and

environmental practice experts who can synergies and contribute to successful implementation.

The outcomes of reviewing existing literature revealed some practical implications for sports leadership. Essentially, leaders have to understand the different obligations and formulate strategies to address them. For instance, in view of the rising government interference and compulsory requirements for specific certifications (e.g., LEED), it is significant to sport administrators to make themselves aware of and frequently evaluate commands so that they become proactive and avoid negative consequences. From the review of literature it is clear that a significant change of organisational strategy toward sustainability was triggered by political, economic, social and environmental changes. Even though few authors argue that it is crucial to understand the reasons for transition toward sustainability there is little empirical research on "why UAE sports sector organisations are implementing sustainability initiatives".

Reviewing current literature indicated that the movement is for sport structures to enlarge and execute existing environmental strategies. The recent emphasis on the environment in sport is anticipated to remain owing to social values and stakeholders anticipations, government interference, and obligatory necessities for definite certifications (e.g., LEED). As ecological awareness rises, sustainable sports represent a board to address these matters and support a sustainable future.

In order to respond to key stakeholder's demands and embrace sustainability issues, sports organisations have implemented various change initiatives to deal with sustainability challenges. However, it is widely asserted that a high proportion of change initiatives fail. Therefore, it is crucial to investigate "what key challenges do

UAE sports sector face in implementing sustainability initiatives needed to effect change".

The cited examples only represent a range of techniques sport organisations have oriented their efforts to upsurge environmental awareness amongst their communities. Likewise, while there is suggestion that organisations are dynamically indorsing their pro-environmental creativities, it remains indistinct whether they are performing so responding to the comprehensive environmental movement or for the reason that they are make an attempt to pioneer a new philosophy of sustainability in sport. As debated earlier, for promoters pursuing to enlarge the number of sustainably designed facilities in professional sport, accepting this adaptation is essential for emerging the most persuasive defence of environmentally-friendly structures.

The notion of green building has generated many discussions in sports sector. Designers and architects are beginning to reconsider the concepts of sustainability and providing these developments with an eco-friendly design provide customers and users the capability to point out their projects with emphasis to the environment. Empirical results are discussed in chapter 4, 5, 6, 7, and 8. The next chapter (i.e. chapter 3) the research methodology adopted for this study is discussed.

CHAPTER 3 : RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter outlines the research methodology and describes the various steps of the research process. The research aims to explore how UAE sports sector organisations are embedding sustainability strategies for improving their competitiveness. There is the description of the research methods, the data collection process and the evaluation that were part of the thesis.

3.2 OVERVIEW OF THE RESEARCH PROCESS

Research is acquiring the new knowledge of the underlying phenomena and observable facts through the experimental or theoretical work without any particular application or use in view (OECD, 2015). Research plays a significant role in learning because it will be useful in various fields and a variety of situations. The research process has benefits on developing better planning skills and organisational while simultaneously increasing insight and knowledge. Moreover, the main benefits of research consist of the better understanding of the design structure, the critical thinking and the challenging assumptions (Morgan, 2016).

In this research, the research process is identified into three key phases within its flexible boundaries. The three phases are the literature review, research strategy and the output. The development of the research work started with the literature review (i.e. Phase 1). Literature review is a core aspect of any research study. It can be defined as “A systematic, explicit and reproducible method for identifying, evaluating and interpreting the existing body of recorded work produced by researchers, scholars and practitioners (Fink, 1998; Naoum, 2013).

According to Randolph (2009) conducting a literature review demonstrates and proofs a researcher's knowledge about their particular topic area, comprising vocabulary, theories, key variables and phenomena, and its methods and history. Additionally, the literature review helps to delimit the research problem or the context of the topic; by recognising what have been done, and finding the gaps in knowledge to outline what needs to be done, it also helps to avoid fruitless approaches, and gain the main research methodologies and insights utilised in similar or related studies to the research topic area. Additionally, reviewing current literature helps a researcher to identify recommendations for further research (Randolph, 2009).

For the purpose of this study, an extensive and critical review of literature was conducted at the initial stage of the research and during the research process to establish a solid theoretical base for the study area and a basis for addressing the problems and attaining the study objectives. The literature review conducted in this research covered the subject of sustainability in the sports sector, sustainable strategies and initiatives and its applicability within sports industry. Additionally, reflected the associated issues, drivers, benefits, barriers and challenges to successful implementation. Furthermore, undertaking the literature review provided the critical analysis of numerous sustainability initiatives, techniques and methods applied in the sports industry, that helped in selecting the most appropriate approach for assessing the benefits of the sustainability initiatives in the sport sector.

The first part of the literature is centred on the importance of sports and the synergies between sustainability and the sports sector, highlighting the vast impact of the sports on the natural environment and how to reduce this impact. The literature review also deliberated the sports sector role as a change lead and a sustainability motivator. Currently implemented

techniques, at national and international contexts, as well as the key related drivers and barriers to implementing sustainability initiatives in the sports sector, are reviewed in turn. The strategic approaches to advance sustainability initiatives, and awareness in the sports sector, and how to lead change towards sustainability, area also covered. The sources of literature for this study included journal articles, reports, books, and conference proceedings. The first stage of the reviewing the literature was to find peer reviewed papers that contained the word sports and sustainability or in the title or abstract. This helped to outline and identify a list of authors active and concerned in the area, journals that covered related articles, papers quoted in or referred to these articles. Based on this, further searches were made, using various electronic databases including; Elsevier (Science Direct and SCOPUS), ProQuest, EBSCO, Web of Knowledge, and internet search engines (Google Scholar), and the university library catalogue. During the different research process stages, the practice of reviewing the literature was repeated at intervals.

Phase 2 of the research process is the research strategy. The study features a mixed method design, i.e. it uses both qualitative and quantitative data collection and analysis techniques. This structure aims to enable the reader to gain insight and understanding of how each method was adopted and executed. A review of literature was conducted at each stage of Phase 2 to enable a better understanding of the subject matter of the study.

Phase 3 discusses research outputs. It constitutes results analysed in chapter 4, chapter 5, chapter 6, chapter 7, and chapter 8. The sustainable assessment framework for managing transformational change towards sustainability is discussed in the penultimate chapter 8 of this thesis. The aforementioned chapters are substantiated with relevant literature.

3.3 RESEARCH DESIGN

Research design involves the selection of methods, sampling, data collection, and interpretation procedures (Bryman and Bell, 2015). Royer and Zarlowski (2001) defined research design as the link between the research question, the literature review, the data analysis, and the results. According to Bryman and Bell (2015), research design considers how best to carry out research to save time and cost. Saunders *et al*. (2009) defined research design as the general plan to answer a research question. In sum, a research design is a framework created to answer a research question or questions. This framework includes the type of study (e.g. descriptive) that is defined by the collection, measurement, and analysis of data (Royer and Zarlowski, 2001).

According to Saunders *et al*. (2009), validity is concerned with whether the findings of the research are really about what they appear to be about. In order to evaluate the validity of research, Yin (2009) proposed four measures to test the quality of a research design. These measures are construct validity, internal validity, external validity, and reliability. Construct validity refers to the operational measures of the concept being studied. Internal validity has to do with establishing a causal relationship between variables (i.e. between a dependent variable and an independent variable). External validity has to do with the domain within which the study can be generalised. Reliability ensures that there is consistency in the result if the study were to be repeated (Yin, 2009).

3.4 RESEARCH PARADIGMS

According to Kuhn (1977), the term paradigm referred to a research culture based on a set of beliefs, values, and assumptions that a group of researchers have in common with regard to

the way to conduct research. Olsen *et al*. (1992), who defined research paradigm as the 'structure and framework or system of scientific and academic idea, values, and assumptions.

TerreBlanche and Durrheim (1999) noted that a research paradigm is an all-encompassing system of interrelated practices and thinking that is used to define the nature of the enquiry. These practices refer to a research process that has four major dimensions namely: ontology, epistemology, human nature, and methodology. The first is ontology which refers to the perception of reality, whether it is objective and external to humans or whether it is created by one's consciousness. The second is epistemology, and it is concerned with how knowledge can be acquired, i.e. whether knowledge is a hard body of objective reality or a subjective experience. The third is human nature, and it is concerned with the socio-cultural assumption on whether or not the researcher perceives man as the controller or as the controlled. The fourth is methodology which refers to the researcher's tools, i.e. the means available to social scientists to investigate phenomena.

There are two main research paradigms, the qualitative research paradigm and the quantitative research paradigm. Where the qualitative research paradigm uses an inductive approach that is based on subjectivity, a quantitative approach uses an objectivist theory-driven deductive approach (Smith and Dainty, 1991). A deductive approach is one where theory is developed and then tested using data. An inductive approach is where data is collected, and theory is developed from the data (Smith and Dainty, 1991). These research paradigms are also separated by their research methods. Research methods refer to the data collection techniques associated with these paradigms. Qualitative methods of data collection are usually through observations and interviews, while quantitative methods are usually through experiments and surveys. The two common research methodologies within the

research paradigms are the qualitative and the quantitative. The combination of these two methodologies otherwise known as the mixed method can also be a choice.

Table 3.1: Complementarity and triangulation through mixed methods

	Quantitative Research	**Qualitative Research**
Purpose/ Objective	• Primary purpose is to determine cause- and-effect relationships • To quantify data and generalise results from a sample to the population of interest	• Primary purpose is to describe on going processes • To gain understanding of underlying reasons and motivations
Setting Hypothesis	• Precise hypothesis is stated at the start of the investigation; theories govern the purpose of the investigation in a deductive manner	• Hypotheses are developed during the investigation; questions govern the purpose of the investigation; theories are developed inductively
Data collection method	• Objective collection of data is a requirement. Through closed ended questions.	• Participant observation, semi-and unstructured interview, focus groups, in-depth discussion and discourse analysis.
Research design	• Research design is identified before the start of the investigation	• Research design is flexible and develops throughout the investigation
Data analysis	• Data are represented and summarised in numerical form.	• Data are represented or summarised narrative or verbal forms.
Validity and reliability	• Reliability and validity determined through statistical and logical methods	• Reliability and validity determined through multiple sources of information (triangulation)
Sample framework	• Samples are selected to represent the population	• Samples are purposefully selected or single cases are studied.
External validity	• Use of inferential statistical procedures to demonstrate external validity • Rely on research design and data gathering instruments to control for procedural bias.	• Use of similar cases to determine the generalisability of findings • Rely on the researcher to come to terms with procedural bias.
Phenomena	• Phenomena are broken down or simplified for study	• Phenomena are studied holistically, as a complex system cross-case comparisons and analysis can be conducted.
Strengths	• Data can be easily generalised • Variable used can be measured • Data are obtained from large samples.	• Provides understanding and description of people‘s personal experiences of phenomena • Complex questions that can be impossible with quantitative can be addressed • subjects can be studied in detail and in-depth
Weaknesses	• Enforces researcher‘s perception to build questions • Less helpful in generating theories • Limited to rigidly definable variables	• Less easily generalised • Knowledge developed might not generalise to other settings more difficult to test hypotheses • Scope is limited owing to the in-depth, comprehensive approach • More easily influenced by the researcher's personal biases and idiosyncrasies • Results can be more difficult and time consuming to be presented in a visual way

Source: Ogunbiyi (2014); Denscombe (2010); Anderson (2010); Creswell and Creswell (2018).

3.5 SELECTION OF A SUITABLE RESEARCH METHOD

Different research methods are suited to different research problems. Understanding the various types of research methods can be a daunting task for many novice researchers, doctoral students, and others (Tashakkori and Teddlie, 2003). For years, the choice has seemed to be dichotomous; one could choose either a quantitative design or a qualitative design. Yet, there is a third viable choice, that of mixed methods. Adopting mixed methods results in better inference because their strengths are complementary and their weaknesses do not overlap (See Table 3.1).

According to Patton (2002), the use of a variety of methods helps ensure the credibility of the analysis and interpretation of the research. In addition, the triangulation of data made possible through these means contributes to the reliability and validity of the study. The concept of triangulation is based on the assumption that any bias inherent in particular data sources, investigator or method used would be nullified when used in conjunction with other sources of data, investigators or methods (Jick, 1979).

There are numerous examples of research methodologies and methods adopted by other scholars in similar areas of research. For example, Babiak and Trendafilova (2011) have chosen a combination of qualitative and quantitative methods for their research through the use of a mixed survey and in depth interviews, to examine the motives and pressures expressed by senior executives to adopt sustainability practices. Kolyperas and Sparks (2011) have adopted a qualitative approach to examine how corporate social responsibility communication occurs in the professional football industry. Kolyperas and Sparks (2010) have used a quantitative online questionnaire to examine how corporate social responsibility affects team identification patterns. On the other hand, Walker and Parent (2010) have done

an extensive literature review through a qualitative content analysis to provide a framework appropriate for the sport industry by drawing on the concepts of corporate social responsibility.

As aforementioned, numerous researchers have used a single approach whilst others have adopted a mixed method for their studies. Therefore, to choose the most appropriate research method; it must be determined by the research questions and the existing body of knowledge in the studied area in addition to data accessibility to the researcher (Reiter *et al*., 2011). The chosen method should be appropriate to achieve the aim and the objectives of the research study in question. Hence, it is important to outline the research design, strategies and methods adopted in achieving the aim and objectives of this study with regard to the research paradigm.

Generally, 'research design' outlines the ways in which the data will be collected and analysed so as to answer the posed research questions and hence provide a framework for undertaking the research (Bryman and Bell, 2015). The research method adopted in this study is a mixed method design that comprises both qualitative and quantitative methods, and thus ensures a wide scope of the study, better inference, and opportunities to present a greater diversity of different views (Creswell 2003; Teddlie and Tashakkori, 2003).

3.6 QUALITATIVE DATA COLLECTION AND ANALYSIS

Qualitative research method provides an appropriate approach to dealing with work contexts change and the complexity of large-scale organisation change (Garcia and Gluesing, 2013). It includes considerations of the organisations of the complex multi-stakeholder, the evolution of the organisational structures and the culture, and how to meet new challenges for

designing and implementing. Qualitative research is carried out to understand meanings, interpretations, and/or to look at, describe and understand experience, ideas, beliefs and values – intangibles such as these (Wisker, 2008). The aims of qualitative research is discovering and understanding meanings individual or group give to a problem or issue (Creswell, 2011). The researchers through observing participants behaviours or taking part in their activities interpret phenomena in terms of meanings people give to them (Denzin and Lincoln, 1994). The researchers' background, culture, history, reasoning and experience influence their interpretation (Creswell and Creswell, 2018). Therefore, to explore how UAE sports sector organisations are embedding sustainability strategies for improving their competitiveness, the qualitative research method is imperative to apply in this research.

In this study, qualitative researches could be applied in the process of research, which includes constructing validation, theory development, theory testing and the discovery of emerging phenomenon. Sampling is the process in which a pre-determined number of observations are selected from a larger population. Sampling is of critical importance in research, as in most cases there is a larger population that due to numerous restrictions sampling is the only viable option in obtaining reliable responses that represent the views of the wider population. Sampling methods include two main categories (probability and non-probability-based samples) and in each category there are a number of techniques in order to select the most suitable sample in the context of the given research (Wilson, 2011; Bryman and Bell, 2011; Saunders *et al*, 2009; Bryman, 2012).

Simple Random Sampling: This is the simplest form of probability sampling techniques where the probability of selection is equal for every case in the population. There is no prior organising of the population but samples are just drawn in a simple random manner. This

method diminishes the unfairness and simplifies the examination of the consequences; therefore, the variance of the overall population can be constructed by identifying the variance between individual outcomes within the sample. However, this method is at risk to errors since the arbitrariness of the choice may consequence in a sample that does not replicate the composition of the total population. It can also be burdensome in the case of a large target group.

Stratified Random Sampling: In this type of sampling the entire population is divided into two or more mutually exclusive segments based on some categories of variables of interest pertaining to the research and involves sampling each of these subsets in a random manner. A main advantage of this kind of sampling is that the ultimate sample selected is representative of the entire population.

Systematic Sampling: This sampling method is a variation of the simple random sampling method and involves some listing of elements. Compared to random sampling this method of sampling is relatively easy to draw and easier to carry out with less mistakes. This is an easy method to implement and the stratification makes the process more efficient. However, it is prone to errors in terms of periodicities in the list. In this method, the group of population is classified and the frame is structured into distinct 'strata'. Each stratum is then sampled as an autonomous sub-population, out of which individual elements can be randomly picked. The definition of strata enables recognition of inferences about specific subgroups which may not be visible in a generalized random sample. Making use of a stratified method also leads to more well-organised statistical approximations. With independent strata it is probable to apply different sampling methods for each subgroup yielding in more consistent analysis.

However the comprehensive implementation of the stratified sampling may result in increased costs.

Cluster Sampling: This method of sampling is used when samples are selected from populations which are dispersed geographically. Under this method of sampling the population will be broken down into different groups, known as clusters, and each cluster has some identifying characteristic. Cluster sampling generally increases the variability of sample estimates above that of simple random sampling, depending on how the clusters differ between themselves, as compared with the within-cluster variation. Thus cluster sampling requires a larger sample than stratified random sampling to achieve the same level of accuracy.

Availability Sampling: This is a method of sampling where subjects are chosen according to their availability, this method is relatively easy but rather a haphazard as running the risk of having a sample that does not represent the population.

Quota Sampling: This type of sampling is based on quotas that are set to ensure that the sample chosen represents certain characteristics in proportion to their prevalence in the population. However, in order to utilize this method of sampling it is essential to have an idea about the characteristics of the chosen population ahead of time. This involves categorizing the target population in a similar way to stratified sampling and then by means of judgment to select the subjects from each segment based on a specified proportion.

Purposive Sampling: This method of sampling is where candidates for the sample are chosen based on the purpose of the study. This sampling technique may involve studying the

entire population of some limited group such as an organisation or a subset of a population group.

Snowball Sampling: This method of sampling involves the identification of one member from the population of interest in order to collect data from; then ask the respondent to recognize other people with similar interest/ideas whom the researcher can speak to. Hence snowball sampling is based on referrals from respondent to respondent and it is mostly suitable when members of a targeted population are difficult to identify.

In this study, a purposive sampling technique is used in order to achieve representativeness (Tashakkori and Teddlie, 2003). The purposive sampling technique involves drawing samples that are both easily accessible and willing to participate in a study. Purposive sampling techniques are primarily used in mixed method studies and may be defined as selecting units (e.g. individuals) based on specific purposes associated with answering a research study's questions. In this study, qualitative data was collected through semi-structured interviews. Semi-structured interviews provide some flexibility and it is one of the ways to obtain a realistic picture of an individual's view (McCormack and Hill, 1997). The study sample included directors, advisers and managers responsible for sustainability strategies implementation in their respective clubs/stadiums/departments/organisations as presented in Appendix A.

Robbins (1994) noted that the suitable number of experts for the qualitative research may range from 5 to 50. Murry and Hammons (1995) suggested that for the qualitative decision-making process the number of experts may be in the range of 10 to 30. To ensure greater dependability and transferability (Creswell, 2014), a total of 30 professionals were

interviewed in the UAE sports sector organisations. An important sample size issue in qualitative research involves saturation of information (Strauss and Corbin, 1998). Saturation is a term used to describe the point when no new insights or range of ideas are generated through adding more data. In this study, data was collected until no new aspects of the sustainability issues were revealed. In this study, actual saturation of data occurred before the 25 interview. Therefore, only 30 interviews were conducted.

The interviews lasted between 20 and 90 minutes. The format of these interviews was face-to-face, and the transcripts were recorded and supplemented with field notes as appropriate. The analysis of the interviews was undertaken using Content Analysis. The purpose of content analysis is to provide knowledge and understanding of the phenomenon (Downe-Wamboldt, 1992). Hsieh and Shannon (2005) noted that a Content Analysis is a method of research for subjective interpretation of the context of text through a process of system classification of coding and identification of themes or patterns. In the study, coding of the transcribed documents involved open coding of meaning units, that is, words, phrases, sentences, paragraphs, which essentially involved labelling concepts. The emerging concepts were mapped into themes. Threats to validity were minimised through triangulation of data collection methods (interviews, internal and external documents) and verification of the initial thematic codes by participants, where they judged the accuracy of data collected, though not its conclusions. The unit of analysis adopted for this study was the UAE sports sector, and the embedded unit of assessment was the 'individual employee'.

Miles and Huberman (1994) referred to validity with terms such as internal validity and external validity. Internal validity refers to the accuracy and trustworthiness of the information. That is, whether it represents the participants' reality. In other words, internal

validity addresses whether the findings are credible (Creswell, 2003). In this study, threats to internal validity were minimised through triangulation of data collection methods (interviews, internal and external documents) and verification of the initial thematic codes by participants, where they judged the accuracy of data collected, though not its conclusions. The researcher had asked participants, after the interview, to review the analysed data. Participant validation involved communicating key thematic codes to the original informant and asking them to confirm the accuracy of thematic codes.

3.7 QUANTITATIVE DATA COLLECTION AND ANALYSIS

Quantitative research methods are also called statistical studies, empirical studies and or hypothesis testing research (Robson, 2011). The aim is to generalise from sample to population on attitude or behaviour of the population (Creswell and Creswell, 2018). In quantitative research real knowledge is what the researcher logically deduced from theory, operationally measured and empirically replicated (Patton, 2002).

The use of questionnaire survey instruments as a method of data collection has many advantages for instance Bourque and Fielder (2002) describes that compared with case studies or semi-structured reviews a questionnaire survey can provide a larger geographical coverage for the sample population. As well as this the use of a questionnaire survey permit anonymity of the respondent and therefore ensures that the respondent completes the survey truthfully, which is especially important in ensuring the validity of the data. This is also further improved due to the fact that the researcher and respondent are not communicating directly, making it unlikely that the researcher is going to have any influence on the answers of the respondent. The questionnaire survey provided to each respondent is exactly the same and hence provides a uniform situation for the collection of data (Henerson *et al*., 1987).

However, due to the nature of questionnaire surveys they do not provide a great deal of detail due to the fact the researcher cannot probe the respondent as to why they responded to a question in a particular way. As well as this questionnaire surveys can be expensive as a result of high printing and mailing costs, and if high response rates are required data collection time can be slow (Bourque and Fielder, 2002).

While the use of a questionnaire survey has its advantages and disadvantages, the advantages are deemed to outweigh the disadvantages and therefore, in this study, a questionnaire survey instrument was used for the collection of quantitative data. A web-based, online survey was used to collect data. This offers many advantages including low cost, speed, and ability to reach respondents globally (Punch, 2005). A robust questionnaire survey design is fundamental to obtaining reliable survey results and an appropriate response rate (Bryman and Bell, 2015).

Questionnaire variables used in the study were derived from the literature review. The specific questions were written with focus on the response process, the utility of individual questions, and the overall structure and appeal of the questionnaire. The cover page introduced the research project and provided critical information such as a confidentiality statement and important notes for completing the questionnaire.

According to Naoum (2013), three typical question types are used in questionnaire surveys: open ended and closed ended for types of question format, and scaled items for opinion questions which require subjective measurement. The study included scaled items for opinion questions. Fellows and Liu (2015) noted that Likert items are concerned with determining respondents' degrees of agreement or disagreement with a statement, usually on a 5-point or

7-point scale. A general problem occurs in the application of opinions or attitude scales in questionnaire surveys: respondents tend toward the neutral position. That is, when asked to strongly agree or strongly disagree on a 5-point or 7-point scale, many respondents would prefer to choose "neither agree nor disagree." Analysts often exclude neutral responses from their analysis, thereby risking the exclusion of valid responses. The disadvantage of this among surveys is that it reduces the quantity and quality of remaining data. Therefore, a 4-point Likert item was used in the study to avoid this.

For example, in this study, respondents were asked to indicate the level of level of importance (i.e. 4 - very important, 3 - important, 2 - fairly important, and 1 - not at all important) they attribute to key drivers for fuelling sustainability initiatives. In this scale, the neutral position of 'do not know nor not applicable' was deliberately eliminated (See Appendix A). The initial design was pretested with six individuals (three from the industry, three from academia) for clarity of understanding, discovery of errors, and to determine a realistic estimate of the time required to complete the questionnaire.

In this study, for the purpose of quantitative data collection, a purposive sampling technique is used. Purposive sampling also known as non-probability sampling techniques are primarily used in quantitatively oriented studies and involve selecting certain units or cases (e.g., individuals, groups of individuals, institutions) "based on a specific purpose rather than randomly" associated with answering a research study's questions (Tongco, 2007). Teddlie and Yu (2007) further defined purposive sampling as a type of sampling in which, "particular settings, persons, or events are deliberately selected for the important information they can provide that cannot be gotten as well from other choices". Therefore, in this study a standard e-mail database of UAE sports organisations were used to identify cases for inclusion in the

sample. However, according to Bajpai (2010), this method eliminates the chance factor in the sample selection process, and therefore suffers from non-randomness.

The target sample population (i.e. respondent) for the current study consists of board members, directors, advisers and managers responsible for environmental, social and economic sustainability initiatives within the UAE sports sector. This is considered a well-defined population with relatively simple demographic characteristics. To further minimise sampling errors, each individual solicited for a response was requested to provide accurate and well thought out responses. Additionally, all respondents were of a maturity and sophistication level to understand the seriousness of the questionnaire and its ultimate value to the research study. All samples were reviewed and considered highly eligible for the survey, thus minimising sampling error. A total of 335 samples were randomly selected.

It is essential that an ethical policy is adopted and implemented and that the privacy of interviewees/survey respondents and confidentiality of the information they give during interviews/survey respondents is not compromised. Ethical issues are a particular concern in expert interviews given the relationship between interviewer and interviewee and the potentially damaging nature of privileged information provided should it be released without providing anonymity. In this research, honesty and mutual respect were considered to be essential to the interviewing process. This research involves human subjects and, as such, has been subject to the ethical review processes of University of Wolverhampton. This requires that all participants in the research, including questionnaire respondents and interviewees, are fully informed about the nature of the work and their roles in it and give their informed consent to be involved. All research proposals are ethically reviewed by ethics committee and must be approved before data collection can begin. All data is anonymised and opinions or

data are not be reported in any way that enables a reader to link individuals to a particular item of data, for example an opinion given in response to an interview question.

3.7.1 Data collection procedure

Survey invitations were e-mailed to respondents requesting that they submit their views via an online survey hosted at https://survs.com/UAEsportssurvey. Overall, a total of 124 fully completed and usable questionnaires were received. The entire data collection process, from the beginning of the database building to the cessation of collection, lasted 24 weeks.

Table 3.1: Summary of mailings and responses

	Number Emailed	Returned to sender	Refused to fill	Partially filled questionnaire	Fully completed questionnaire returned	Response rate
Total	335	80	58	73	124	**37.01%**

The questionnaire was posted to directors and managers responsible for sustainability (i.e. environmental, social and economic) initiatives. One hundred and twenty four (124) fully completed and usable questionnaires were received (See Table 4.3). The overall response rate of the online questionnaire was 37.01% ([124/335]*100). Saunders *et al.* (2009) argue that a minimum number (i.e. effective responses) for statistical analysis should be 30. Therefore, the statistical analysis of 124 responses collected in the current study is seen as reasonable and effective, especially for a survey of this kind.

3.7.2 Characteristics of the respondents

It is important to the study that a range of people with varying experiences within the UAE sports sector respond to the survey, as such the survey respondents were asked to indicate their time in their current organisation.

Table 3.2: Length of position held in current organisation

Length of position held in current organisation				
0-5 Years	**6-10 Years**	**11-15 Years**	**16-20 Years**	**21+ Years**
15%	22%	16%	28%	19%
(19)	(27)	(20)	(35)	(23)

From Table 3.1 we can see that there the majority of the questionnaire respondent were relatively experienced in the organisation with the majority being in their organisation from 11-21 plus years.

A total of 15.3% (19 of the 124 respondents) are sustainable development advisors, 51.6% (64 of the 124 respondents) are sports directors or managing directors or corporate directors or social responsibility directors or environmental directors or business development directors, and 33.1% (41 of the 124 respondents) are corporate social responsibility managers or environmental managers or quality, environmental, health and safety managers. As can be seen, there is a relatively large percentage (66.9%) of respondents who are senior staff.

3.7.3 Statistical procedures to interpret data

The statistical analysis of the data from the questionnaire survey was conducted using the using the Statistical Package for Social Sciences (SPSS) for Windows version 20 for Windows.

For the analysis and interpretation of the data the following procedures were conducted:

- A coding system was created and assigned numbers to each question.

- All questionnaires were reviewed for accuracy and credibility.
- Data from the questionnaires were directly input into the SPSS 20.0 Database.
- Data was quality-checked for entry accuracy.
- Analysis was then run producing results as descriptive statistics in SPSS 20.0.

3.8 THE DEVELOPMENT AND EVALUATION OF SUSTAINABLE ASSESSMENT FRAMEWORK FOR SPORTS SECTOR ORGANISATIONS

The empirical findings from the previous stages of the research study and aspects from critical review of literature were taken into consideration in the development of the framework. In this study, during face-to-face interviews, interviewees were asked the need for development of sustainable assessment framework for sports sector organisations. Of the interviewees, 90% (27 of the 30) of the interviewees cited the need for a comprehensive framework for the development of sustainable assessment framework for sports sector organisations into day-to-day business. Therefore, development of sustainable assessment framework for sports sector organisations was developed and validated (see chapter 8). The developed assessment framework provides broad guidance for the integration of sustainability initiatives into day-to-day operational decisions.

The developed assessment framework was evaluated with 10 senior professionals, who had over 15 years of work experience in their organisations. The professionals had been informed by e-mail about the objectives of the research study and aim of the assessment framework. Also attached to the email was the developed assessment framework. This e-mail was sent one week prior to the face-to-face interview so as to create an opportunity for the interviewees to review the developed assessment framework. The experts selected were required to provide comments on the developed assessment framework. All face-to-face

interviews were recorded with permission and later transcribed. As part of the analysis of the interviews, content analysis was employed.

3.9 SUMMARY

This chapter provided an overview of the research methodology and procedures used in the acquisition and analysis of empirical evidence used to determine how the UAE sport sector organisations are embedding sustainable strategies to enhance competitive advantage. The chapter also explains why and how mixed methodology was adopted for this research study. It involved qualitative and quantitative approaches of data collection and analysis. Content analysis was used to analyse qualitative data and descriptive analysis was used for analysing quantitative data. Results from the analysis of qualitative and quantitative data are discussed in chapter 4, chapter 5, chapter 6, chapter 7, and chapter 8.

The next chapter (i.e. chapter 4) will discusses the status and perceptions of the UAE sports sector on the concept of sustainability.

CHAPTER 4 : THE STATUS AND PERCEPTIONS OF THE UAE SPORTS SECTOR ON THE CONCEPT OF SUSTAINABILITY

4.1 INTRODUCTION

This chapter explores the status of the UAE sports sector and perceptions of the UAE sports sector on the concept of sustainability. The discussion is based on quantitative and qualitative data. The quantitative results are based on the analysis of the data obtained from the online survey questionnaire (124 responses). The findings are further validated and elaborated using the results from the qualitative data from 30 professionals from 20 sports organisations.

The results are presented in two parts. The first section presents an analysis of quantitative data in relation to status of the UAE sports sector. In doing so, this section addresses the first research objective of this current study, which is “to explore the outlook of the UAE sports sector” and first research question, which is “what is the status of the UAE sports sector”.

The second part in section presents an analysis of quantitative and qualitative data in relation to the perception of UAE sports sector on the concept of sustainability. In doing so, this section addresses the second research objective of the current study, which is “to investigate and document the perceptions of UAE sports sector on the concept of sustainability” and second research question, which is “what does sustainability mean to UAE sports sector organisations”.

4.2 THE STATUS OF THE UAE SPORTS SECTOR

In recent years, sports sector has made remarkable achievements in the UAE. In this study, during face-to-face interviews, in order to capture the general development of the UAE sports sector, a question was raised, i.e. what do you think of the development of the UAE sports sector? The current study results revealed that, 23% (7 of the 30) of the interviewees noted that the UAE sports sector is advanced and in the developed stage, 67% (20 of the 30) of the interviewees agree that the UAE sports sector is in developing stage, and the other 10% (3 of the 30) of the interviewees think the development of UAE sports sector is falling behind.

Results clearly suggest that the UAE sports sector is still in the developing stage. These interviewees noted that UAE sports sector sustainability strategies are not good enough, and there are some shortcomings. The reasons cited by the interviewees of the existing sports facilities are idle after match, and the overall utilisation rate is low, which leads to enormous resources wastage. A large amount of investment and difficult of the current sustainable management as two relatively outstanding problems for sports industry in the UAE. Furthermore, interviewees indicated that the slow recovery of funds will be the main shortage, and it could reflect that the funding issue could be solved through the government or other entrepreneurs. Therefore, these shortages are mainly caused by the unbalanced development as well as the differences of sports venue facilities and funding between the states (Zhang, 2015).

According to Renukappa *et al.* (2013), a major challenge facing most organisations is uncovering the most effective methods of mapping, capturing, sharing and applying the new knowledge through integrating corporate environmental and social sustainability issues into business to create the economic value. Scientific research personnel of scientific research

institutions with a low proportion of professionals also affect the development of the sports sector, then the scientific research level and personnel quality are still needed to be further improved in the sports (Williams and Kendall, 2007).

4.3 PERCEPTIONS OF THE UAE SPORTS SECTOR ON THE CONCEPT OF SUSTAINABILITY

In this study, through online survey, respondents were asked to indicate the meaning of the term sustainability. Their responses are presented in Table 4.1. It is clear from the Table 4.1 that the perception of UAE sports sector on the concept of sustainability is more aligned towards the environmental aspects. This is closely followed by social, economic, and triple bottom line aspects.

Table 4.1: The perceptions of UAE sports sector on the concept of sustainability (N=124)

Sl. No	Sustainability dimension	Number of respondents indicated (N=124)
1	Environmental aspects	51%
2	Economic aspect	24%
3	Social aspects	16%
4	Triple bottom line aspect	9%

The concept of sustainability comprises different meanings and can be defined in several ways. For most responses sustainability definition is limited to environmental aspects only, which were further reflected in their responses to the embedded, implemented and measured

initiatives, which were mainly focus on the environmental strategies and generally without considering social and economic features of sustainability, for instance; volunteering activities, or community initiatives. However, some of these organisations whose responses only focus on the environmental aspects of sustainability may have some social initiatives and activities which would fall under the comprehensive concept of sustainability. This is owing to the fact that many organisations lack the application of an integrated approach, and basically these social initiatives are managed under other different departments. Therefore, not all the respondents' have enough information and know in details the scope of initiatives being embedded at their particular organisations.

The personnel who are mainly responsible for sustainability comprehend significantly different notions and definitions of sustainability concept. In additional to their focus on the environmental features, they highlighted some social, equality, diversity and inclusion aspects into their definition of sustainability. Some different clubs participants have a wider definition of sustainability, incorporated the ethics and high quality manners amongst all the employees.

In summary, even at the most basic level, environmental concerns suggests a need to address a number of critical business problems such as the impacts of industrialisation on the natural environment, the continued use of non-renewable resources such as oil, steel, and coal as well as the production of damaging environmental pollutants like carbon emissions from production plants and services. In the current study, it is apparent that the environmental sustainability aspects predominate more clearly in the UAE sports organisations.

In order to further validate views of the survey respondents, during face-to-face interviews, in order to capture the general perceptions of UAE sports sector on the concept of sustainability, a question was raised, i.e. what does sustainability mean to your organisation? Table 4.2 presents the interviewees perception on the concept of sustainability. It is evident from the Table 4.2 that the perception of UAE sports sector on the concept of sustainability is more aligned towards the environmental dimension. This is closely followed by economic, water conservation, innovation and social aspects.

Table 4.2: The perceptions of UAE sports sector on the concept of sustainability (N=30)

Sl. No	Sustainability dimension	Total number of interviewees cited (N=30)
1	Environmental protection	77%
2	Economic growth	67%
3	Water conservation	57%
4	Innovation	40%
5	Social aspects	30%

Sustainable development in sports is to point to run through "people-oriented" guidelines for the sports stadium in the planning and design, construction, operation management, and other processes. Moreover, it fully embodies the protection of the environment, protecting resources and protects the ecological balance and sustainable development thought. Besides, it reflects the function demand of the games and organic combines of the comprehensive utilisation. Finally, it would realise the sustainable development of the large-scale sports venues, and obtains both economic and social benefits. Therefore, it is becoming increasingly difficult to ignore the importance of sustainability in the sports industry. Analysis of the qualitative data revealed that, 77% (23 of the 30) of the interviewees asserted sustainability in

the environmental protection. In general, the results suggest that the sustainability strategy is not popularised in UAE sports sector. Also, then they have a great understand of sustainability about the water conservation and economic growth with 57% (17 of the 30) and 67% (20 of the 30). But the rates of innovation and social aspects are low with 40% (12 of the 30) and 30% (9 of the 30). It means that not all interviewees understand completely of the sustainability. Therefore, the focus of work in sports sector should pay attention to the popularisation of the sustainable development and the sustainability strategy, and combine it with the sports sector.

Sustainability aims to illustrate the balance degree between the natural resources and its exploitation and utilisation. The environmental sustainability of the stadium is in the sense of saving resources, protecting the environment and building the green building with sustainable development. The social sustainability of the sports venue usually refers to the diversity, development potential and radioactive of the venues application. In guarantee under the premise of environmental protection, the sports sector attaches great importance to the start stage of construction project site selection, development mode, financing mode and operation mechanism (Peter and Lorna, 2004). To gain the relatively optimal benefit of every stage, the efforts would be made on achieving the virtuous circle of sustainable development.

Sustainability is a core of organisational and technological innovations which could focus on the returns of the bottom-line and the top-line. Becoming environment-friendly and reducing the costs due to the reduction of the inputs of organisations. Besides, the process produces additional revenues from better products as the improvement of their competitiveness. In fact, it would find that smart organisations now embed sustainability into their management to achieve the goals of corporate innovation. Indeed, it is already starting to transform the

competitive landscape through the quest for sustainability strategy, which will force organisations to change the way on processes, technologies, and management modes (Nidumolu *et al*., 2009).

It is evident that the economic dimension of sustainability is the second most stated perceptions of UAE sports sector on the concept of sustainability. In an effort to improve economic aspects of sustainability, organisations are: reducing operating costs through the systematic management of resources, attracting new business through rigorous business integrity policies, increasing productivity through a motivated workforce, and attracting a new range of socially responsible investors. The development of the social perspective on sustainability has tended to trail behind that of economic and environmental perspectives and remains a relatively new development (Sharma and Ruud, 2003). The social bottom line incorporates issues of public health, community issues, public controversies, skills and education, social justice, workplace safety, working conditions, human rights, equal opportunity, and labour rights to name a few.

The most important departure of the sustainability concept from orthodox management theory lies in its realisation that economic sustainability alone is not sufficient condition for the overall sustainability of a corporation (Gladwin, *et al*., 1995). A single-minded focus on economic sustainability can succeed only in the short-run; however, in the long-run sustainability requires all three dimensions to be satisfied simultaneously. A variant of the 'multiple bottom line' perspective is popularly known as the "triple bottom line" concept (Elkington, 2001). The triple bottom line is a systematic approach to managing the complete set of a company's environmental, social and economic responsibilities. It represents the idea

that business does not have just one single goal – namely adding economic value – but that it has an extended goal set which necessitates adding environmental and social value too.

The study results clearly suggest that there are many misconceptions of what sustainability mean to UAE sports sector. Such misunderstanding and contradictory interpretations usually translate into a negative view, which in turn usually reflects sector's willingness to implement new sustainability initiatives or reject the very basic idea of sustainability. The current study results clearly suggest that there are many misconceptions of what sustainability mean to UAE sports sector. Such misunderstanding and contradictory interpretations usually translate into a negative view, which in turn usually reflects sector's willingness to implement new sustainability initiatives or reject the very basic idea of sustainability.

4.4 SUMMARY

Almost two decades after the term sustainability was coined, the concept of sustainability continues to evolve. As more and more organisations explore its implications in their own industries, businesses and among their own networks of stakeholders' connections, new ways of understanding the concept of sustainability has spun off. As revealed in this current study, the UAE sports sector is still in the developing stage and the concept of sustainability falls broadly into four key categories. They are: environmental sustainability dimension, economic sustainability dimension, corporate social responsibility dimension, and triple bottom line dimension.

Overall, the following inferences and implications could be documented:

- Growing global interest in sport development to accelerate the transition to sustainable development and societal well-being, an increasing number of sports

organisations are obligating themselves to adopt such a move, hence, sport bodies have started to give the sustainability a great corporate agenda priority, bearing in mind that embedding sustainable initiatives in the sport sector would encourage public commitment to protect the environment and society. However, the UAE sports sector is still in the developing stage.

- The UAE sports sector is still in the developing stage and existing sports facilities are idle after match, and the overall utilisation rate will be low, then it will cause a great waste of resources. A large amount of investment and difficult of the sustainable management as relatively outstanding problems, are also the challenges for sports sector in the UAE. Therefore, embedding sustainability strategically can add value to and realise benefits for organisations, including sports organisations.
- By its nature, sports sector, clubs and facilities pose a challenge for the sustainability movement. Sports personnel can be significant lead in the sustainability movement by being aware of and committed to sustainable strategies and initiatives within their particular organisations. Therefore, to improve the UAE sports sector sustainability performance, decision makers have to recognise and understand the concept of sustainability. It is worthwhile to consider a holistic view of sustainability (i.e. simultaneous consideration of the environmental, social and economic sustainability dimension) rather in isolation.
- It could be noted that, although the importance of sustainability is broadly acknowledged within the UAE sports sector, there is a significant lack of a common and operationalised understanding on the concept of sustainability. In the long-term, sports businesses should be aiming to create more openness in acknowledging and addressing the issues of sustainability. Therefore, sector-wide awareness rising programmes on the concept of sustainability needs to be implemented.

- Sustainability refers to an organisational process or group of initiatives that aim to enhance economic value, or social welfare or reduce environmental impacts. Implementing a sustainable management system is an integrated and systematic approach, which allows sustainability to form part of core business decisions.

This chapter has addressed the first research objective of the current study, which is "to explore the outlook of the UAE sports sector" and second research objective of the current study, which is "to investigate and document the perception of UAE sports sector on the concept of sustainability". Therefore, this chapter has answered the first research question which is "What is the status of the UAE sports sector?" and second research question "what does sustainability mean to UAE sports organisations"?. The next chapter (i.e. Chapter 5) describes the key drivers that have fuelled the need for implementing sustainability initiatives in the UAE sports sector organisations.

CHAPTER 5 : THE KEY DRIVERS FOR IMPLEMENTING SUSTAINABILITY INITIATIVES

5.1 INTRODUCTION

This chapter focuses on the key drivers that have fuelled the need for implementing sustainability initiatives in the UAE sports sector. The discussion is based on quantitative and qualitative data. The quantitative results are based on the analysis of the data obtained from the online survey questionnaire (124 responses). The findings are further validated and elaborated using the results from the qualitative data from 30 professionals from 20 sports organisations. In doing so, this chapter addresses the third research objective of this current study, which is "to explore and document the key drivers for implementing sustainability initiatives in the UAE sports sector organisations" and third research question, which is "what are the key drivers that have fuelled the need for implementing sustainability initiatives in the UAE sports sector organisations?".

5.2 THE KEY DRIVERS THAT HAVE FUELLED THE NEED FOR IMPLEMENTING SUSTAINABILITY INITIATIVES

In this study, through online survey questionnaire, respondents were asked to indicate the level of importance of key sustainability initiatives on a four-point Likert scale ranging from "Not at all important (1)", "Fairly important (2)", "Important (3)" and "Very Important (4)" (see Appendix B: Survey questionnaire). It is evident that the most important key driver that fuelled the need for implementing sustainability initiatives is reducing operating costs. This is closely followed by protecting organisational reputation, stakeholders pressure, government legislation/regulation, culture of the organisation, top management commitment, and ethical

responsibility. It should be noted that for some sports organisations the key drivers may be all of these drivers or combination of some of these drivers.

Table 5.1: The level of importance of key drivers for fuelling sustainability initiatives (N=124)

Key drivers for influencing sustainability strategies in the UAE sports sector	Overall Importance
Reducing operating costs	3.9
Protecting organisational reputation	3.7
Stakeholders pressure	3.6
Government legislation/regulation	3.5
Culture of the organisation	3.2
Top management commitment	3.1
Ethical responsibility	3.0

Table 5.1 shows the level of importance of key drivers for fuelling sustainability initiatives as indicated by the online questionnaire survey.

5.2.1 Reducing operating costs

In this study, with mean value of 3.9, reducing operating costs is very important for fuelling sustainability initiatives in their organisations. Embracing sustainability issues as opportunities enable sports organisations to reap benefits in terms of cost savings, increased business value, increased competitiveness and market share, higher process efficiencies, reuse and recycling of resources, and a positive public image and reputation (Renukappa et al., 2013). Table 5.1 shows that this is the currently the most important driver for influencing sustainability strategies in the UAE sports sector.

It is natural for sports sector to want to adopt these win-win business strategies such as the reduction of operating costs as they are not only beneficial in terms of profitability from increasing the productivity of natural resources, but also help close materials loops, eliminating waste, provide customers with efficient solutions, and most importantly of to the company it reinvests natural capital, hence gaining a competitive advantage (Lovins *et al*. 2001).

5.2.2 Protecting organisational reputation

In this study, with a mean value of 3.7, protecting organisational reputation is very important for fuelling sustainability initiatives in their organisations. In this study, protecting reputation was the second most important driver for influencing sustainability strategies in the UAE sports sector. Kay (2004) describes that the principal assets of a modem company are knowledge, brands and reputation which are in the heads and hands of employees. As well as this Balmer and Greyser (2003) noted that organisations are increasingly following a path towards 'corporateness', in which sports organisations are trying to build strong corporate reputations and corporate brands by integrating environmental, social and economic responsibility issues into day-to-day business operations.

As such it can be argued that long-term success is measured by several key outcomes which can be described as organisations' financial, environmental and social outcomes. This as a result requires corporations in various sectors of the economy to differentiate themselves to improve on these outcomes, with the improvement of organisational reputation being a key to do so.

5.2.3 Stakeholder pressure

In this study, with a mean value of 3.6, stakeholder pressure is very important for fuelling sustainability initiatives in their organisations. Analysis of the above results clearly suggests that sports organisations are implementing various sustainability initiatives due to pressure from key stakeholders. It is difficult for organisations in prioritising the interests of stakeholders. If organisations have to react to external pressures there is a greater sense of conflict between economic and social objectives.

The interests of stakeholders in recent times has changed, stakeholders not only have traditional interests such as the prevention of negative business impacts but are also requiring businesses to provide positive force and contribute to broader societal developments amongst other things. McWilliams and Siegel (2001) noted that if the firm is functioning properly with respect to prioritising the interests of stakeholders, then management should pursue only those strategies designed to enhance or protect the firm's position across its relevant markets. However, stakeholders have become increasingly interested and engaged with businesses to address issues of environmental and social issues.

The aforementioned statement clearly suggests that organisations are implementing sustainability initiatives in order to attract more socially responsible investments.

5.2.4 Government legislation/regulation

Interestingly, with a mean value of 3.6, government legislation/regulation is very important for fuelling sustainability initiatives in their organisations. From the questionnaire response,

we can clearly determine that government regulation/legislation is an important key driver for implementing sustainability initiatives.

Renukappa *et al*. (2013) shows that Government regulations/legislations clearly play a major role in environmental and social sustainability this is especially present in the regulation of the sports sector hence the survey response. Hoverer as discussed earlier whilst the compliance of the regulations in the sports sector may be regarded as cost enhancing which as a result could possibly be detrimental to industrial competitiveness. Renukappa *et al*. (2013) describes that while costs are likely to pose problems in the short term in the longer to medium term, properly designed environmental standards can trigger innovations whilst the initial cost of may be high over time these innovations can enhance the productivity of resources and make companies more competitive.

5.2.5 Culture of the organisation

Miller (2011) describes organisational culture as a complicated set of assumptions, values, behaviours, and artefacts. In this study, with a mean value of 3.2, the culture of the organisation was a very important driver in influencing sustainability strategies being implemented within their organisation. 34% (42 of the 124) of the questionnaire respondents noted that top management commitment was important. Overall the results from the questionnaire survey showed that in the majority of cases the respondents felt that the culture of an organisation is an important driver with regards to embedding sustainability strategies.

Miller (2011) states that organisational culture is complicated and a relatively new concept; having a culture within an organisation in which the culture is to develop sustainable ideas is a crucial requirement for sustainable development. While most managers may recognise the

importance the culture-knowledge relationship of culture, they can find it difficult to articulate to effective action. Ramus and Steger (2000) found that employees were more likely to develop and implement creative ideas that positively affected the natural environment when they perceived supervisory encouragement for doing so.

5.2.6 Top management commitment

In the current research, with a mean value of 3.1, top management commitment was a very important driver in influencing sustainability strategies being implemented within their organisation. The view of questionnaire respondents clearly suggests that the commitment of top management personnel such as chairman, CEO's and top senior management play an important role in implementing sustainability initiatives; however as the results, the questionnaire suggests that different organisations may have different level of involvement from their management, with the majority believing that it is not the most important driver when it comes to the implementation of sustainability initiatives.

Bansal and Roth (2000) emphasised that socially proactive companies have top management support that is involved in environmental and social issues. As such for the top management in an organisation to implement sustainability within their organisation, a clear strategy is required. The top management of an organisation is required to reassess their role and commitment to influencing organisations to adopt strategies for sustainability.

5.2.7 Ethical responsibility

In this study, with a mean value of 3.0, ethical responsibility was a very important driver in influencing sustainability strategies being implemented within their organisation. From the data presented above we can clearly see that the response from the questionnaire survey was

very varied and split almost equally three ways amongst very important, impotent and fairly important.

The Pacific Institute and WWF (2014) state the sustainable initiatives for the management of water for sports sector organisations is not only an ethical responsibility, but also increasingly an integral part of ensuring business viability and reducing business risk.

In order to further validate views of the survey respondents, during face-to-face interviews, in order to capture the drivers that have fuelled the need for implementing sustainability initiatives, a question was raised, i.e. what are the key drivers that have fuelled the need for implementing sustainability initiatives in UAE sports sector organisations? Typical drivers cited by the interviewees in this study include: regulations, cost savings, efficient energy usage and savings, meeting carbon emissions targets, competition, pressure from different stakeholders, innovation and growth opportunities, customer requirement, to improve membership (e.g. an increase of 50% of customer visits to the club sites) over the period of sustainability initiatives in place).

Table 5.2: The key drivers that have fuelled the need for implementing sustainability initiatives (N=30)

Sl. No	Key driver that have fuelled the need for implementing sustainability initiatives	Total number of interviewees cited (N=30)
1	Costs savings	90%
2	Enhancing customers relationship	83%
3	To improve water efficiency	80%
4	Competitive advantage	77%
5	Give back to the community	67%
6	External pressure	60%
8	To improve reputation	57%

Table 5.2 shows the key drivers that have fuelled the need for implementing sustainability initiatives as revealed by those interviewed in this study. It is evident that the most important key driver that fuelled the need for implementing sustainability initiatives is costs savings. This is closely followed by enhancing customer's reputation, innovation, competitive advantage, give back to the community, external pressure and to improve reputation. It should be noted that for some sports organisations the key drivers may be all of these drivers or combination of some of these drivers.

For instance in this study, overwhelmingly 90% (27 of the 30) of the interviewees believed that reducing operating cost was the key driver for implementing sustainability initiatives in their organisation. One of the interviewees noted that:

> "For example, if water efficiency is not improved in our organisation, the operating cost would be too high"

Generally, operating cost saving enables organisations to obtain benefits by simplifying the management structure, reusing recycling resources and improving production efficiency to seize the opportunities for sustainable development. Obviously, this will not only increase the organisational value and market occupancy, but also improve the positive public reputation moreover maintain competitive advantage (Renukappa *et al*., 2013). In the UK, for instance, Wembley Stadium, London, and Millennium Stadium, Cardiff, have both reported significant savings as a result of their environmental sustainability strategies. As expected, this area is where most organisations are more readily able to provide percentage Revenue Over Investment (ROI) figures or at least a total amount of savings over a given period. The success rates for energy management efforts for sporting venues is notable. The Millennium Stadium stated that simply by removing water heaters they were able to save £217,000 pa,

amounting to an ROI of 130.9%. Moreover, replacing the venue's lighting system has reduced lighting costs by 70% per annum. Wembley Stadium claims that through their sustainability measures over the past five years, including putting in place 100% renewable energy, they have saved an average of nearly £¾ million per annum. Their waste-management initiative is another major achievement, which provides them with a return of £5 per tonne of recycled waste.

Similarly, 57% (17 of the 30) of the interviewees noted that improve reputation is 'important' driver for implementing sustainability initiatives in their clubs/organisations. Corporate reputation as a process of enhancing company image is aimed to build a truly mutual relationship with the public in terms of sustainability. The behaviour of fulfilling social obligation in different companies could achieve in close contact with their own interests and social interests. The tangible effects of sport organisation sustainability actions can help in supporting public health, reducing pollution, protecting habitats, saving energy and water, environmental behavior change in sport fans' lives, and far beyond. These effects have initiated a sport environmental movement with two broad goals: to reduce the ecological footprint of sports activities and to exploit the popularity of sports to raise environmental awareness in general (Schmidt, 2006).

In the study, 60% (18 of the 30) of the interviewees cited that external pressure is an important driver for implementing sustainability strategies in their organisations. This point is better described by the interviewee suggested:

> "Most of sports clubs in UAE are the administrative institution by local government whom lack of driving force for sustainability, not to mention that embedding sustainability itself. However, private sector clubs own economic interests to consider social and environmental interests"

Renukappa *et al*. (2013) pointed out that stakeholder pressure stems from each of their interests for economy, environment and society.

The sport sustainability footprint is resultant of sport origination functions (e.g., general operation, hosting events, and maintaining facilities) and spectator impact (attendance and viewing). For example, millions of fans attend sporting events, meaning millions of people travel to and from games, most of them in cars. Upon arrival numerous non-food items are purchased requiring production, packaging, transport, storage, etc. Fans at sport facilities produce varying levels of waste after each sporting event (e.g., paper wrappers, cups, food waste both in and outside the stadium). While fan-produced waste often gets the majority of attention, even the athletes themselves generate waste when they play. Water bottles, game notes, wrappers, etc. are produced by the athletes and add to the overall waste footprint at an event.

Furthermore, 80% (24 of the 30) of the interviewees noted that to improve water efficiency is an important driver for influencing sustainability strategies in their club/organisation. Namely, there is an interaction between energy conservation and water resource protection. The implementation of sustainable initiatives in sports sector needs to be expressed by some intensive energy industries, and it can be realized with the application of energy saving technology under the huge synergistic effect of energy and water (Gu, 2016). To sum up, increasing energy and water consumption is inevitable since accelerating urbanization and population. In order to retaining industrial competitive advantages, embedding sustainability strategies for water and energy conservation has been required to maximize synergistic action. As an interviewer described:

> ‘‘Improving the utilisation of waste and new energy-saving technologies is essential to take the path of sustainability’’

Government incentive policy/regulation involved water administration needs a set of strategies to enforce, including economic incentives, duplicate and shared responsibilities, pollution fines and rational exploitation of insufficient resources. In general, the UAE government and their own people should put more pressure on the sports sector to be more sustainable water performance.

Sport provides a visible platform from which to speak and educate about sustainability issues. Sport is a significant part of Arab cultures, and the constant attention it receives means that it is a useful platform to address and to publicise sustainability efforts in a general way (e.g., benefits of recycling) as well as specific measures (e.g., how you can recycle at our stadium). Sport fans have an affinity for sport organisations both psychologically and consumptively (e.g., their mood after a big win; their willingness to support sponsor products). Therefore, sporting organisations and events can serve as environmental platforms to not only educate fans but also to influence sustainable behaviours within their everyday lives.

5.3 SUMMARY

The current study results clearly suggest that sustainability strategies may include either isolated or multiple coordinated measures. Environmental, social and economic practices of an organisation occur in a number of different ways. Although strictly speaking they do not all mean the same thing, some argue that there is sufficient overlap and that they adequately capture the essence of sustainability. However, others argue that the use of the term sustainability provides a more comprehensive approach to addressing all three elements (Savitz 2013). However, Elkington (1998) suggested that businesses should measure their success notionally by the traditional bottom line of financial performance as well as by their impact on the broader economy, the environment and the society in which they operate. From this study, it is apparent that the environmental sustainability aspects predominate. The

environmental sustainability considers the impact of organisation activities on the quality and quantity of natural resources, the environment, global warming, ecological concerns, waste management, reductions in energy and resource use, alternative energy production, and improved pollution and emissions management. The economic sustainability aspects are the second most stated perceptions of the UAE sports sector organisations.

Increasingly, sport sector organisations are beginning to focus on a sustainable approach to operating their business (Kirwan 2013). The expectation of sports sector organisation to demonstrate their corporate responsibility towards society, environment and economy has never been greater. The spotlights on climate change, use of natural resources, employee well-being, value chains and the global economic crises have all led to increased pressure to manage the impacts of sports business activity on all stakeholders and contribute to sustainable development (CIPD, 2013). Five key drivers have fuelled the need for implementing sustainability initiatives. They are: stakeholder pressure, protecting organisational reputation, reducing operating costs, government legislation/regulation, top management commitment, culture of the organisation and ethical responsibility.

Overall, the following inferences and implications could be drawn:

- A complex mix of political, economic, social and environmental forces drives sports organisations to implement sustainability initiatives.
- Before sports organisations embed sustainability initiatives they need to understand and recognise key drivers, which are pushing them towards implementation. Therefore, understanding the drivers for implementing sustainability initiatives is important.

- This study revealed that sports executives were motivated to incorporate sustainability efforts because it was a society norm and they believed their organisation would be perceived as a good citizen. Also, sport organisations are increasingly becoming aware of their sustainability impact and proactively, yet strategically, implementing sustainability initiatives. This proactive approach is used to avoid legal ramifications, save money, and build relationships with stakeholders (i.e., customers, fans, local communities, local, and corporate partners).
- Understanding the level of importance of the different drivers can help organisations prioritise and align processes and resources accordingly to ensure success. It could assist decision makers to develop sustainability-related strategies based on the drivers.

Overall this chapter has addressed the key drivers that have fuelled the need for implementing sustainability initiatives in the UAE sports sector organisations. In doing so, this chapter has addressed the third research objective of this study, which is "to explore and document the key drivers for implementing sustainability initiatives in the UAE sports sector organisations". Therefore, this chapter has answered the third research question which is "what are the key drivers that have fuelled the need for implementing sustainability initiatives in the UAE sports sector organisations?" of this study. The next Chapter 6 will discuss the key sustainability initiatives that have been implemented in the UAE sports sector organisations.

CHAPTER 6 : THE KEY SUSTAINABILITY INITIATIVES IMPLEMENTED IN THE UAE SPORTS SECTOR ORGANISATIONS

6.1 INTRODUCTION

The purpose of this chapter is to present the key sustainability initiatives that have been implemented in UAE sports sector organisations. The results discussed in this chapter are based on quantitative and qualitative data. The quantitative results are based on the analysis of the data obtained from the online survey questionnaire (124 responses). The findings are further validated and elaborated using the results from the qualitative data from 30 professionals from 20 sports organisations. In doing so, this section addresses the fourth research objective of this current study, which is "to investigate and document the key sustainability initiatives that are currently being implemented in the UAE sports organisations" and fourth research question, which is "what are the key sustainability initiatives currently being implemented in the UAE sports sector organisations needed to effect change?".

This study revealed eight key initiatives under the umbrella of sustainability that have been implemented across organisations that have participated in this study. They are: energy and carbon management, waste management, water conservation, sustainable construction initiatives, smart sports strategies, employee engagement initiatives, social responsibility initiatives, and mobile applications for sustainability. The findings are discussed and substantiated with relevant literature. Finally, section 6.3 summarises the key findings. In doing so, Chapter 6 addresses the fourth research objective, which is "to investigate and document the key sustainability initiatives that are currently being implemented in the UAE

sports organisations" and fourth research question, which is "what are the key sustainability initiatives currently being implemented in the UAE sports sector organisations needed to effect change?" of this study.

6.2 KEY SUSTAINABILITY INITIATIVES IMPLEMENTED IN THE UAE SPORTS SECTOR ORGANISATIONS

In this study, through online survey questionnaire, respondents were asked to indicate the level of implementation of key sustainability initiatives on a three-point Likert scale ranging from "Implemented (3)", "Planning to implemented in next 5 years (2)" and "not being implemented (1)" (see Appendix B: Online Questionnaire).

Table 6.1: The level of implementation of sustainability initiatives (N=124)

Sl. No	Sustainability initiatives implemented	Total number of respondents indicated (N=124)
1.	Energy saving initiatives	86%
2.	Water management initiatives	83%
3.	Adopting corporate social responsibility	81%
4.	Employee engagement	77%
5.	Improving customer service	73%
6.	Waste management	70%
7.	Resource efficiency	65%
8.	Sustainable financing	60%
9.	Certified standards	56%

From Table 6.1 it is evident that Energy saving initiatives is the single most implemented sustainability initiative. This is closely followed by water management initiatives, adopting corporate social responsibility, employee engagement, improving customer service, waste

management, resource efficiency, and sustainable financing initiatives. However, as shown in Table 6.1, certified standards are the least implemented sustainability initiative.

Furthermore, to validate the quantitative results and in order to further explore in depth on sustainability initiatives that have been implemented in UAE sports organisations, during face-to-face interviews, interviewees were asked to list and describe key sustainability initiatives that have been implemented in their organisations. From Table 6.2 it is evident that energy and carbon management is the single most implemented sustainability initiative. In the following section each of these sustainability initiatives is discussed in detail.

Table 6.2: Sustainability initiatives embedded within the UAE sports organisations (N=30)

Sl. No	Sustainability initiatives currently being embedding within sports organisations	Total number of interviewees cited (N=30)
1.	Energy and carbon management	97% (29)
2.	Waste management	90% (27)
3.	Water conservation	83% (25)
4.	Sustainable construction initiatives	77% (23)
5.	Smart sports strategies	70% (21)
6.	Employee engagement initiatives	67% (20)
7.	Social responsibility initiatives	60% (18)
8.	Mobile Applications for sustainability	50% (15)

6.2.1 Energy and carbon management

Trendiflova *et al*, (2012), reports that, pressure from the media is also a large factor for sporting organisations to incorporate environmental sustainability aspects by scrutinising

them publically about the behaviour of the team and the club itself. For instance, sports facilities impact on the environment is the massive water usage and energy consumption as well as the large numbers of fans which cause waste and the distances travelled contributing to carbon emissions. Sports in general have an adverse effect on the environment, and some sports are affected by the environment therefore it should be in their best interest to take responsibility of their environmental impacts, for example, due to climate change skiing has been affected due to reduction in snow precipitation on certain courses.

In this study, overwhelmingly 97% (29 of the 30) of the interviewees noted that their organisation currently implements initiatives to manage energy. One of the interviewees noted that they replaced the fixed speed motors in the pool air handling unit and the changing village with ECM fans and humidity control at a capital cost of $13,800. The humidity control is set at 50% and the project has resulted in savings of 19% per annum. Another interviewees noted that their organisation has implemented LED (light-emitting diode) lights. LED technology and automisation of lighting systems resulted in energy savings. Furthermore, interview noted that through a combined heat and power plant their organisation improved significant energy efficiencies and delivers a reduction of 1000t CO2 equivalent. Most often cited initiatives under the umbrella of energy management include: “promoting energy reduction”; “records kept with documented reduction in energy usage”; “performance monitoring carried out regularly”; “energy saving products in use”; “installing meters and switching to low energy light bulbs, adopting options for energy efficient heating systems”. “preventative maintenance arrangements to sustain the energy reduction”; “enhanced control of electricity and gas use”; and “electronic commutated motor (ECM) fans (4.3kw) instead of the existing ones (5kw)”.

Based on the knowledge obtained from the FIFA World Cups since 2006 and after the materiality analysis, environmental conservation actions were dedicated to transportation, waste management, and procurement, in addition to climate change and carbon offsetting by introducing low-carbon schemes. Consequently, and throughout the 2014 FIFA World Cup, recycling was encouraged within the arenas and a training programme was explicitly established to strengthen the sustainability involvement of stadium managers, counting water and energy saving procedures (FIFA, 2014). For instance, one of the interviewees noted that how the energy and carbon reduction initiatives are adopted in their organisation. With the smart LED Light replacement systems it is estimated to generate carbon savings of 449.8t CO2 equivalent. To reduce energy use, power demand and reactive power demand, the systems are typically installed in series with the mains electrical supply to a building, allowing all its electrical equipment to benefit from an optimised supply. Due to this initiative it is estimated annual savings are 456,725kWh and a carbon reduction of 312 tCO2 equivalent per annum.

In this study most often cited initiatives under the umbrella of carbon management include: "working with the university to reduce the carbon footprint by 40% by 2020", "the club's design, operations, and equipment works to minimise their carbon impact"; "the club typically recycles 90% of the materials stripped out during new site construction"; "based on Pearl Rating System"; "chemical-free products used for cleaning to minimise pollution; "the club use and promote environmental products"; "renewable technologies considered"; "the club adopts "Buy locally" policy in place"; "new projects and modifications to existing facilities meet the highest standards of environmental conservation"; "prevent pollution from the club's operations"; and "working to reduce the carbon footprint and greenhouse gas emissions of the club's facilities and operations".

In summary, innovation for improved energy consumption in the sports sector and changing individual energy usage moving consciously toward an environmentally sustainable attitude are the necessary first steps that should be carried out by all concerned. Today, the primary purpose of energy saving is the reduction of carbon emissions so as to prevent global warming, which causes various environmental problems on the planet. But, it is not so persuasive to promote energy savings on commercial grounds, since both in the sports sector and in our daily life, the reduction of carbon emissions itself does not often bring any immediate benefits or any immediate profit to organisations.

6.2.2 Waste management

The sport environmental footprint is resultant of sport origination functions and spectator impact. For example, millions of fans attend sporting events, meaning millions of people travel to and from games, most of them in cars or by other public transport. Upon arrival numerous non-food items are purchased requiring production, packaging, transport, and storage. Fans at sport facilities produce varying levels of waste after each sporting event. While fan-produced waste often gets the majority of attention, even the athletes themselves generate waste when they play. Water bottles, game notes, wrappers, etc. are produced by the athletes and add to the overall waste footprint at an event.

In this study, 90% (27 of the 30) of the interviewees noted that their organisation currently implemented waste management initiatives. One of the interviewees noted that their organisation had adopted various waste management strategies, aiming to minimise resources consumption and reduce their waste to landfill, including: more than 97% of waste is recycled through implementing active recycling programmes; the joining process is totally

paperless (through mobile app); using online joining and card-less memberships; to minimise the consumption of resources; 212 tonnes of waste was removed during the construction works, and 90% of which was recycled; the club website promotes waste reduction; "Re-Use" policy in place, visible recycling taking place and documented reduction in waste.

With the rapid development of the sports sector in UAE, and the Asian Games and national games and other large-scale domestic and international comprehensive sports events held in succession, it raised a new round of sports venues construction and retrofit. However, there are contradictions that the application of high and new technology, energy-saving materials, the limitations of resources, as well as the present condition of the existing stadium and the construction concept (Xiao, 2015). Therefore, to deal with the real problem, the stadium renovation and construction process must closely link with environmental protection, the utilisation of renewable energy and the effective operation of sports venues. In recent years, the sports organisations made efforts on the environmental protection and sustainable development in sports industry. Therefore, the sustainability strategies have potential effects on the evolution of the sports sector and realise the comprehensive, coordinated and sustainable development for the stadium itself (USSA, 2004).

Another interviewee noted that their club had implemented waste management approach to prevent or reduce waste production; provided clearly labelled recycling bins in public areas; carefully measure chemicals and cleaning products, and consider eco-friendly products; use reusable glasses, plates, cups and cutlery; used soap/shampoo dispensers rather than individually wrapped bars/bottles; print brochures and menus on 100% recycled content paper; and source products made with recycled content or from sustainable sources.

In this study most often cited initiatives under the umbrella of carbon management include: “our club is improving its waste management profile, (progress demonstrated in the club’s documents)”, “87.1% of the club’s total waste is being recycled currently and working to achieve zero waste to landfill”; “emphasis on reusing existing resources when possible”; “to minimise resources consumption”; “online and totally paperless operation”; “card-less memberships”; “adopting active programmes to recycle any generated waste, (around 90% is recycled)”; “waste reduction promoted”; “Re-Use policy in place”; “visible recycling schemes”; “documented reduction in waste”; “carefully measure chemicals and cleaning products”; “use recycled materials when possible, from sustainable resources”; and arrange for visibly labelled recycling bins in public areas”.

In summary, waste management is carried out to different extents across the participating sport organisations. This also highly depends on the nature of the game and intensity of venue use. For example, Dubai Cricket Ground will sometimes host a game for up to 5 consecutive days and personnel only have 2 hours at the end of each day to clean the stadium and sort waste before the gates are closed and the grounds have to be ready for use on the following day. For a football match on the other hand this does not apply. Football stadiums only have a 2-hour game and the whole day or even the day after to clean up, suggesting the logistics are much more straightforward and there is more time to sort waste properly. It is recommended that ensure all staff, especially Café staff, have correct training on waste streaming; change bins to differentiate waste streams more clearly; ask staff to wash out their food containers so that they may be recycled; add recycling bins to the changing rooms; small changes such as clear labelling on bins can make a significant difference; closed loop solution of buying back cups made from recycled plastic means organisation only spends money on manufacturing

costs not materials; and investing in a food waste dewaterer will reduce waste and the associated costs as well as contamination.

6.2.3 Smart sports strategies

The smart sports sector is anticipated to grow rapidly. WinterGreen Research, a market intelligence firm, estimates that platforms that incorporate sports equipment with coaching software will grow at a compound annual growth rate (CAGR) of 51% globally from 2014 to 2021, reaching a market value of $864 million. And the global connected fitness tracker market is forecast to grow from more than $2 billion in 2014 to $5.4 billion by 2019, according to research company Parks Associates. Meanwhile, the total sports equipment market is anticipated to grow by just 3% (from $71.6 billion in 2015 to $83 billion by 2020), according to research firm Technavio.

According to Weinswig (2016) digitalization has become so important within the sporting goods industry that Adidas, in its 2015 annual report, highlighted it as one of the main trends currently affecting the sector. In this study, 67% (20 of the 30) of the interviewees noted that their clubs/stadiums are implementing smart sports strategies. Some of these interviewees noted that smart sports strategies include: smart sports coaching platforms, smart sports fitness trackers, smart energy management, smart water management, smart sport equipment and wearables incorporated with digital technology. Moreover, interviewees stated that smart sports is part of the wider phenomenon of the (IoT), Internet-enabled items, gather and share data, and interact with their surroundings.

For instance, one of the interviewees noted that:

> "we adopted 'Game Golf Live' system that enables players to track, analyze and share data related to their performance during a round of golf. The solution helps amateur players improve their skills, compare their performance against other players' and compete against opponents all over the world by creating challenges. Game Golf Live consists of two components, a tag that is applied on the top end of the golf club and a tracking device that is mounted on the player's belt. Before each shot, the player taps the tag against the tracking device, enabling the system to gather data. The information can be transmitted in real time though Bluetooth to an app installed on the player's smartphone, or it can be transmitted after the game to a smartphone, tablet or computer, if the player prefers to analyze the stats later".

Another interviewees stated that:

> "smart sports products range from gym machines to running shoes, but what makes them "smart" is their ability to track users' athletic performance data and provide information and analytics that can help users optimise their training".

From the above statement it is clear that sports organisations are implementing smart strategies to capture data through smart sports equipment. The capture data is a precious resource for athletes and trainers, and can also be used by companies to track consumer behavior. Fitness and athletic data can be used for: monitoring and improving performance; virtual coaching; and marketing purposes. Sports organisations can gain intelligence on consumers through the individual fitness data collected by smart sports equipment, and that information can be used to tailor marketing to individual customers. Such data often reveal insights about the user's health status, and companies that own the information could share it with third-party firms.

The growth prospects of the smart sports category, sporting goods manufacturers are investing in digitalizing their product ranges. Since 2013, sporting goods companies have been in buyout frenzy, acquiring fitness apps developed by third-party companies, as the app technologies can be embedded into the software, equipment, and wearables that the manufacturers make.

For example, under Armour spent a total of $560 million to acquire Endomondo and MyFitnessPal in February 2015 and Adidas paid €220 million (US$239 million) to acquire Runtastic in August 2015. Weinswig (2016) stated that smart sports products range from gym machines to running shoes, but what makes them "smart" is their ability to track users' athletic performance data and provide information and analytics that can help users optimize their training.

Weinswig (2016) further noted that the data gathered through smart sports equipment is a precious resource for athletes and trainers, and can also be used by companies to track consumer behavior. Fitness and athletic data can be used for:

- Monitoring and improving performance.
- Virtual coaching.
- Marketing purposes.

Companies can gain intelligence on consumers through the individual fitness data collected by smart sports equipment, and that information can be used to tailor marketing to individual customers. Such data often reveal insights about the user's health status, and companies that own the information could share it with third-party firms (Weinswig, 2016).

Smart sports equipment shows more dynamism than the broader sports equipment category, and we expect the smart segment to drive category growth in the near future as the technology becomes more mainstream, and as competition among manufacturers increases and products become more affordable. Consumer adoption should accelerate as more athletes and recreational sports enthusiasts decide to use data to track their progress and to create personalized virtual coaching programs.

6.2.4 Water conservation

The United Nations defines water conservation as 'the preservation, control and development of water resources, both surface and groundwater, and prevention of pollution' (UN, 1997) With a growing population and decreasing accessible freshwater resources, long term sustainable management of water supplies is required to ensure the security of water for future generations. The UN reported (UNESCO, 2009) the world's population is growing by nearly 80 million people per annum, requiring an additional 60 million cubic metres of water The report also estimated that by 2013, there will be approximately 1.8 billion more people living in cities than in 2005, around 60% of the world's population.

The improvement of water infrastructure is a critical issue, water distribution networks are used worldwide and deliver water for domestic, industrial and agricultural use. Water losses in distribution systems can account for up to 30% of the water supply (Casillas *et al*, 2015). For instance, the UK water companies lose about 3.4 billion litres of potable water per day (Pearce, 2012) this can be even higher in developing countries with up to 50% network supply losses (Hunaidi and Wang, 2006). The repair and recovery of water from leaking

distribution systems can go a long way to conserving water resources, reduce the energy required to treat the water and in turn reduce the carbon footprint of fresh water supplies.

Many cities have made the political decision to reduce water leakage in an effort to ensure security of supplies, Paris and New York have reduced leakage to 10%, Thames Water who supply London lose around 26% of its supply per annum (Pearce, 2012). In contrast Singapore have reduced their leakages down to around 5% (Pearce, 2012), these losses can be attributed to natural deterioration.

In this study, 83% (25 of the 30) of the interviewees noted that their organisation currently implements initiatives to manage water. Generally, very little was being considered concerning water management by the interviewed clubs. This could be owing to the fact that the participating sports organisations do not mainly operate as water sports and hence water is not seen as a basic material issue, except one of the participating fitness and leisure centre where swimming pools and water sports facilities were operated. One of the interviewees noted that their organisation had strategy to reduce water consumption including: washrooms are equipped to minimise water consumption; cleaning equipment uses 70% less water than conventional machines; the Gym has sensor-controlled showers, WCs and wash basins; supporting communities by selling bottled water, helping to provide them with clean water supplies.

Other interview noted that their organisation adopted swimming pool and water sport facility with new treatment technologies such as UV and ozone. The reduction in water consumption is as a result of the reduction in the accumulation of dissolved chemical substances associated with traditional chlorine disinfection methodologies.

Most often cited initiatives under the umbrella of water conservation include: “working on a plan to reduce specific water consumption”; “installed water saving devices on urinal systems”; “undertake a review and audit of water consumption”; “washrooms are aimed to decrease water consumption”; “cleaning machines uses 70% less water than conventional ones”; “sensor-controlled showers, WCs and wash basins”; “water use reduction is promoted”; “water saving strategies in place”; “regular monitoring and records”; “water regeneration taking place”; “documented reduction in water usage”; “water reduction is promoted”; and “water saving structures in place”.

Willis *et al*, (2011) concluded ‘directed awareness information focused on improving the current level of understanding of sustainable shower, clothes washing, irrigation and tap use behaviours will result in significant reductions in water consumption within residential households’. Many water saving ideas are put forward by local, and national governments and water companies including: listen for and repair dripping taps and running toilets; install low flow aerated taps; install low flush toilets; install low- flow showerheads; replace older, larger- use toilets with the newer higher efficiency toilets; take short showers and save the baths for special occasions; turn off the tap whilst cleaning your teeth, shaving, hand washing or washing your hair; install water saving washing machine and dishwasher; and use a water butt for irrigation.

All of the above are useful ideas and very generic, regions and cultures vary, lifestyles vary and water usage varies between urban and rural habitats. However, in many water poverty areas of the world water conservation is a matter of survival and not a perception of entitlement.

6.2.5 Sustainable construction strategies

There is little doubt that sport arenas, ballparks, and stadiums are deeply tied to their cities. The allocation of millions, and sometimes billions, of public dollars toward the construction or renovation of sport facilities implies that policymakers, local residents, and athletic teams attribute significant value to these venues (Long, 2013). Much of this supposed worth is financial: the sport facility provides a home for a high-profile professional team or event, which may consequently produce greater tax revenues, create jobs, and stimulate urban renewal (Kellison and Mondello, 2012). However, other perceived benefits of mega sport facilities are largely symbolic.

Global CO2 emissions track an upward trend and expected to keep on growing. Construction industry has a massive and increasing impact on the environment; globally, 40-60% of total energy consumption results from building construction, operating; heating, lighting, ventilating, maintenance, and servicing which results in high energy cost for both individuals and business levels, as indicated by, Zhou *et al*., (2014) and Hoseini *et al*., (2014). Additionally, buildings generate massive amounts of Greenhouse Gas emission (GHG), which makes them a major responsible for the global warming, Zue and Zhao (2014) and Green *et al*, (2015), in the time when climate change has become one of the most critical problem, Ji *et al*.,(2009) and Ruparathna *et al*. (2016).

Green *et al*. (2015) noted that buildings have a significant contribution to the value and the stability of the economy. The construction industry constitutes around one-tenth of gross domestic product (GDP) worldwide. Nonetheless, it is a significant employment generator

and provides work to almost 7 per cent of total employment population globally, Pearce and Ahn (2012).

In this study, 77% (23 of the 30) of the interviewees noted that their organisations currently practising sustainable construction strategies. One of the interviewees noted that part of our sustainable construction initiatives, on a new site, the club typically recycle 90% of the materials stripped out, and fit-outs are based on Abu Dhabi pearl standards, incorporating environmental considerations into every project. The club likewise minimise pollution, for example by using chemical-free products for cleaning; the club adopts "buy locally" policy in place; environmental products promoted and used; sustainable purchasing policy in place; and renewable technologies considered.

In this study most often cited initiatives under the umbrella of sustainable construction strategies include: recycling, design for environment, using solar energy; health and safety; education and training related to sustainable construction; promoting usage of bus services; encourage walking and cycling; all of the club sites are close to major transport hubs; transport policy in place; and walking/cycling promoted; car sharing promoted; and sites are close to public transport hubs; using sensors to measure noise levels and install noise management systems; sustainable construction policy to set out its intentions and make a formal commitment to making improvements; Sustainable Development 'champions' were identified from within the centre to help promote the policy and ensure that members were engaged; sustainability promoted internally and externally, with regular engagement with all stakeholders and staff training; and a cultural change by the club, making sustainability part of everyday practice, which in turn has a positive impact on the overall environmental performance of the club.

Buildings consume large quantities of resources and have a major impact on our health, wealth, and environment. Buildings are critical to our success as society, as Green *et al*., (2015) pointed out that we spend, in average an amount of time in buildings that deserves to ensure that the indoors and outdoors environment meet our physiological and psychological needs, Ruparathna *et al*., (2016).

In view of these findings, Ries *et al*. (2006) and Shafaghat *et al*. (2016), argued that investigations into sustainability are increasing with a significant demand for low embodied energy and low carbon energy efficient buildings, ensuring generating minimum waste, considering the whole lifecycle of buildings counting renovation and deconstruction, required by all participants which representing a major opportunity to implement sustainable development in the construction industry, Yuan *et al*. (2013).

The aim of sustainability is to allow people to achieve their needs and enhance their wellbeing, while conversing and protecting the ecological system and its diversity, considering current and future generations. According to Zue and Zhao (2014), Chatterjee (2009) and Gluch (2006), green or sustainable building is a significant measures put forward to mitigate significant impacts of the building stock on the environment, society, and economy, reflecting the efforts put forward to apply sustainability in building manufacturing, by developing green building strategies, designs, standards, and assessment tools. Zue and Zhao (2014) go further and defined four pillars of green buildings, highlighting the associated social impacts rather than the environmental and economic ones, e.g. enhancing occupants and local community health conditions whilst discussing the turn on investment to developers.

6.2.6 Employees engagement initiatives

In the current study, 67% (20 of the 30) of the interviewees noted that that their organisations currently implemented employee engagement initiatives. Most of these interviewees noted that their organisation had induction training to all employees related to sustainability strategies. In these cases sustainability training include for example, training on waste or energy management only to people accountable or involved in managing those particular issues, such as catering and cleaning staff. Informal training may take place by means of communication and engagement with employees and advance their levels of awareness of definite subjects through various different techniques. In some cases certain types of training might not be categorized as or considered comprised under sustainability but it can be regarded as such.

For instance, one of the interviewees noted that in their club, employees are made aware of their particular responsibilities regarding environmental strategies including waste management; separation and recycling initiatives, and the relevant legislations. In addition employees attend theoretical training, sessions and workshops to make them aware of all eco-standards and strategies for their club. These workshops followed by exercises, leaflets, and posters helping the employees to recognise the financial and environmental returns of adopting sustainability, this resulted in better engagement.

Another interviewees noted that their club arranged an energy efficiency programme to encourage members of staff to act as energy champions and promote energy efficient practice at work. This campaign is strongly supported by the energy management team using their building energy management systems to manage the computer based control systems.

Additionally, the club works in partnership with suppliers to adopt environmental practices on resource efficiency in a very successful supply chain programme engaged over 70 of their suppliers over a five year period.

Similarly, another interviewees noted that their organisation encourage employee volunteering scheme. Their club provide a variety of volunteering initiatives to their staffs, which commonly comprise getting involved in community initiatives and offering days off for volunteering. Most often cited employee volunteering initiatives include: supporting vulnerable community, children, and special needs; raising money to provide clean water; charity supporting projects; operating an independent voluntary organisation promotes and supports the development of an active and effective voluntary; providing support, guidance, information and training; developing links between voluntary and community organisations, and other agencies; and offer a number of training workshops designed to give further information around volunteering.

6.2.7 Social responsibility initiatives

Corporate Social Responsibility (CSR) is developed around the corporate principles and objectives. In addition, this policy helps to determine how organisations operate in relation to stakeholders and the priority that is given to each group. For this reason, this policy will help organisations to prioritise placing more integral aspects in the forefront of the decision making process (CRI, 2003).

In the current study, 60% (18 of the 30) of the interviewees noted that their organisations currently implemented corporate social responsibility (CSR) initiatives. In this study, it is evident that the majority of organisations currently implement CSR initiates, Kotler and Lee

(2005) argue that the reason for this is companies see "CSR as a commitment to improve community well-being" via "discretionary business practices" and whilst Davis (1960) argues that CSR is something that is not a direct economic interest of firms, many large organisation fell that have an obligation to incorporate CSR initiatives.

In this study some interviewees specified that community projects are an essential part of sustainability, others convinced that volunteering or community projects are not fall under the concept of sustainability, yet see them as important. Lamming *et al*. (1999) explains some companies believe it is not an appropriate goal for business to deal with social issues. Instead, organisations should focus on 'environmental soundness', which includes only the environmental and economic elements. For instance one of the interviewees noted that their club helps bring new life to communities by using spaces which other service providers often avoid. In 2015 the club have built gyms in vacant retail space, in gym locations vacated by previous operators and as part of social responsibility. The club is also active in community and charity fundraising, and the club is a sponsor of major sustainability schemes. Another interviewees noted that their organisation is supporting charity projects and working together with foundations, highlighting the importance and necessity of the collaboration and communications between the club and the partner charities.

Most often cited social responsibility initiatives include: promote and embed sustainability behaviours within the local community; providing recycling bins in public spaces; providing systems to encourage users to make the right choice at the point of disposal; helping bring new life to communities by using spaces which other service providers often avoid; Activities in community and charity fundraising; taking part in many schemes as a main sponsor; take part in a sports events; and participating in a national day celebration.

Thus, organisations using a CSR practice likewise, will set themselves apart from their competitors and this will provide competitive advantage in the context of differentiation (Carroll and Shabana, 2010). In consequence of organisations do not adopt CSR will lose competitiveness. That is to say, organisations may see stakeholder's demands as constraints rather than opportunities (Carroll and Shabana, 2010).

Interest groups, government agencies, and corporate partners are developing their own CSR agendas and, in their partnerships, sport organisations are responding to maintain mutually beneficial relationships (Nguyen *et al*., 2014). Improving the financial performance of an organisation, for instance, is determined to a large degree by the satisfaction of the stakeholders' interests. Therefore, addressing these new expectations is critical to an organisation's planning processes over time. The adoption of CSR activities is often associated with some initial cost (rather large in some instances, such as solar panels), which could affect management decisions about which specific programs to adopt first and how to strategically distribute limited resources.

6.2.8 Mobile applications for sustainability

In this study, 50% (15 of the 30) of interviewees noted that their organisations are using mobile applications to manage sustainability issues. These interviewees noted that their organisations are going further with environmental by joining the term with two other concepts that are highly important for the elements of people and planet within the triple bottom line. These two new concepts are health and safety. Environmental, Health and Safety (EHS) are the three main areas that organisations are supporting by incorporating integrated and innovative solutions that can provide the effective management of these three aspects.

For instance, one of the interviewees noted that their organisation had implemented mobile applications to manage the three aspects of the sustainability, which are profit, person, and planet. In order to control these elements, some challenges rise as sustainability issues. Some of the sustainability challenges that the club possesses are reducing 50% of the carbon intensity its operation centres by 2020, complying with the reporting obligations of the Carbon Reduction Commitment and the Carbon Disclosure Project, and undertaking clear reporting and measurements in order to comply with the SDGs.

According to Burke *et al*. (2011), the International Labour Organisation (ILO) stated that accidents at work or occupational diseases claim the lives of 2.2 million annually. In addition, the HSE (2015) explains that 2 million people in the United Kingdom are currently suffering from work-related illness. These figures illustrate the importance of managing health and safety in companies as it deals with the well-being of employees.

Sectors, such as the construction industry which remains as one of the most dangerous in the United Kingdom, possess impacting rates of fatal injuries. Between 2004 and 2005, the fatal injuries rate for the construction industry was 3.4 per 100,000; this can be compared to the average industrial fatal injuries rate which was 0.8 per 100,000. Additionally, between 2006 and 2007, this figure incremented by 28% (Hughes and Ferrett, 2015). This illustrates the notable importance of managing health and safety along with environmental issues in order to obtain a more efficient performance of the companies' operations and healthier workers.

In order to fully understand this, it is imperative to illustrate what health and safety stand for. Health is described as the process of preserving the wellness of people's mind and body by

regulating activities in the workplace. On the other hand, Safety can be described as the protection of people from any physical injury (Hughes and Ferrett, 2015). In consequence, health and safety can be described as the protection of people's mental and physical welfare.

On the other hand, it can be seen that tackling health and safety problems requires an effective management approach. Stranks (2005) explains that management is the adequate use of resources in order to achieve the organisation's objectives. This management involves the comparison between the risks of operations and the costs of reducing or eliminating those risks, and the health and safety management is not different from this.

Health and safety management implicates planning, controlling, organising, measuring the performance, and motivating managers. In the same way, it also includes the decision-making process which is a vital process in management. The management of Health and Safety involves everyone within the organisation and their personal behaviour, even if the personal factors such as perception, attitude, motivation, character, and training. In addition, it incorporates the acceptance of change, along with the problem of stress and the role of each member of the organisation (Stranks, 2005).

On the other hand, as the management Health and Safety is fundamental for the efficient management and development of an organisation, further efforts have been performed in order to handle this fundamental element with the environment by implementing mobile application technologies that can provide its ubiquity attributes as a solution.

The SAP software offers a suite for the environment, health, and safety. It not only focuses on producing a positive impact on the environment, but it also accomplishes the reduction of cost along the way, improvement of operating margins, increase of brand's reputation, and

attract new investors. On the other hand, SAP Sustainability Information Center offers other key benefits such as the increment of operational efficiency by undertaking an operational risk management system, the reduction of cost related to energy consumption, the efficient management of product regulations that guarantees its compliance and safety needs, and the generation of timely, valuable, and reliable reports for both regulatory and voluntary organisations (SAP AG, 2013).

SAP SE (2015) points out that by implementing this new technology a reduction in 71% of the recordable accident frequency is obtained. This illustrates the relevant impact that this has over the organisation. In the same way, SAP AG (2013) explains that reduction costs due to strategic management of energy use and lower emissions of carbon dioxide gases are also attained.

6.3 SUMMARY

Business models encouraged overconsumption by the have's at the expense of the have not's, which is unsustainable (Willard 2012). However, what was once considered the norm is no longer the case. The world is faced with unprecedented global economic, environmental, and social challenges. In an increasingly resource-constrained world, sustainability will continue to be a focus for public and private sector organisations, as they consider society's long-term prosperity (Doppelt, 2009). Sustainability is about building a society in which a proper balance is created between economic, social and environmental objectives.

Today, ''… sports and the environment are indelibly linked, from the glitziest athletic spectacles to the everyday games played by billions of ordinary people'' (Schmidt, 2006). While environmental protection strategies have been developed and adopted at nearly all

sporting levels, environmental sustainability strategies initiatives are among the most important strategies that sport organisations can adopt to counter adverse environmental issues. Often seen from environmental actions are cost savings from changing operations, community goodwill, and potential revenue generation opportunities. The cost savings can provide an operational benefit for a team in a community, but as the emphasis on environmental issues increases, there is more than just a financial stake in making sustainability a strategic component of sport operations.

This section discussed the eight key sustainability initiatives that have been implemented in the UAE sports sector organisations. In the order of implementation, they are: energy and carbon management, waste management, water conservation, sustainable construction initiatives, smart sports strategies, employee engagement initiatives, social responsibility initiatives, and mobile applications for sustainability.

As sport personnel increase their awareness, knowledge, and understanding of environmental issues, they will see the strategic threads that are woven through the environmental issue at every level of their organisations. Working towards more environmentally preferable practices is an ongoing, constantly evolving process. However, with a strategic mindset, it will not be forgotten as new goals are set, new objectives formulated, and new tactics enacted across all fronts of sport operations.

In the end, the strategic inclusion of environmental issues into all aspects of organisational operations will eventually become routine and part of the fabric of sport business. Sport personnel have been a part of social change and awareness development for many social causes over the years, and the environment is the latest one. Sport personnel have the

opportunity to serve as an unparalleled role model for society, the marketplace, and the world at large.

The UAE sports related managers must go through a decision-making process whereby they understand the sustainability footprint that their organisation has, are willing to take steps to minimise where possible, and then create a strategic plan that includes major stakeholders in the origination to implement actions. It is important to help managers with the generation of awareness and knowledge of what the organisation can do with respect to sustainability. This may be done by communicating the values of key stakeholders that are part of the organisation (e.g., fans or employees) or education on what other sports organisations are doing to increase knowledge.

Overall, the outlook for improved sustainability initiatives efforts from UAE sports sector organisations looks quite promising at present, but the current recession will undoubtedly be a sharp test of the commitment of every organisation towards sustainability principles. One of the key reasons that the recession is on is due to unsustainable business practices, being too concerned with economic profit and not focusing enough on balancing profit with social and environmental issues. There is no doubt that the current tough economic condition will make sports organisations to think twice about spending money on anything but essentials to their business. But, those sports organisations that really understand what building a sustainable business means the recession should have very little impact and much better position to survive the recession. This is because sports organisations those implement sustainability initiatives will benefit from improved reputation, better employee engagement, lower operating costs, and better relationship with key stakeholders. Therefore, it is apparent that if

the UAE sports organisations does not implement and practice sustainability initiatives will pay for it in the long-term and maybe even in the relatively short-term, too.

Although vision and support from top executives is helpful, sport managers and other personnel must be aware of the overall environmental impact of their organisation's activities and begin to see micro- and macro-level strategic and tactical areas for change. Everyone, no matter their organisational role, can play a part in the sustainability activities of an organisation. In order for them to take actions appropriate for a current situation, and to plan for longer-term ones, it is important that proper leadership and management mechanisms are in place so that individual initiative and leadership can be demonstrated.

Overall, the following inferences and implications could be drawn:

- Overall, the outlook for improved sustainability initiatives efforts from the UAE sports sector organisations looks quite promising at present. This is because organisations those implement sustainability initiatives will benefit from improved reputation, better employee engagement, lower operating costs, and better relationship with key stakeholders. Clear and strong brand, should improve the public perception of the quality of services that sports sector offers, and this in turn, will increase the trust, loyalty and will help reducing the perceived risk.
- The study revealed that the implementation of environmental sustainability initiatives such as energy and carbon management, waste management, and water conservation, are well embedded in the UAE sports sector organisations. Although sports organisations proactively addresses environmental sustainability issues through its recycling activities and use of environmental technologies, its pro-environmental efforts could still be regarded as unsuccessful because of its complexities.

- The implementation of initiatives related to sustainability is low in the UAE sports sector organisations. Therefore, there is a need to reshape the UAE sports sector organisations existing sustainability strategy in order to gain sustainable competitive advantage.
- To help with changing values and beliefs and create awareness and knowledge of why accounting for environmental sustainability is important in sports organisations operations, a strategic framework should be developed. What most sports managers will want to know is what it is they are being asked to do and why it is important for the organisation to achieve it. A strategic framework encourages dialogue, explains change, and can be an effective way of planning for sustainability within complex sports organisations. A strategic framework provides awareness and knowledge, allowing emphasis to go into creating the action.
- The current study results suggest that the implementation of social sustainability initiatives such as employee engagement and social responsibility are still evolving in the UAE sports sector organisations. Taken together, the impact of leadership, sustainability-related policies, structures, reward systems, training programmes and performance reporting are key factors in successful implementation of sustainability initiatives.
- It is suggests that more clarity is needed on how the UAE sports sector organisations must change to meet the sustainability challenge, and how the necessary changes may be achieved. Therefore, there is a need for cross-sector collaboration to capture and share best and worst practices related to managing sustainability initiatives within the sports sector.
- Smart technology has enormous potential to enable sports organisations systems and processes to be automated; to provide managers with better data/information; and to

support them in performing more tasks and activities while remaining visible to their communities. A wide range of smart sports equipment is available in the market which can track, analyse, and collect the data about an athlete's performance and techniques. Bluetooth connectivity, accelerometers, motion sensors, and other advanced features are integrated into the equipment with minimum impact on its usability. These improvements have been made possible due to the size and weight of their components. Such advanced technologies do not only help coaches evaluate their athletes but also aid players in assessing how their training is going on. Therefore, there is a need for implementing more smart technology initiatives in the UAE sports sector organisations. Furthermore, there is a need to develop and implement a strategic framework for implementing smart devices in the sports organisations.

- The scarcity of knowledge and expertise associated with sustainability initiatives is, and will continue to be, a huge challenge for the UAE sports organisations. Therefore, training programmes related to the management of sustainability-related knowledge will help leaders, managers, and change agents to better understand on how to craft and implement various sustainability-related strategies for competitive advantage.
- Sport and the natural environment play an important role in shaping the elements of the communities in which sport organisations personnel operate. Sport management students, as pre-managers, require the most comprehensive and immersive experiences possible to prepare them for a career in the sport industry. With the multiplicity of linkages between sport organisation and event operations and the environment, it is imperative that sport management curricula integrate the natural environment into its course and extracurricular work. Developing an understanding, a focus on, and even a passion for sustainability in sport requires a holistic approach to teaching that interconnects intellect, application, philosophy, and emotions into an

immersive set of applied experiences that result in a transformative learning experience. Therefore, the UAE business and sport education curricula must integrate the sustainability management aspects into its courses.

- It is concluded that sustainability issues are complex, dynamic, and multifaceted. Most of the sustainability initiatives are inherently collaborative, as they relate to supporting the community and future generations. Therefore, to solve some of the global sustainability problems, it is important that key leaders and decision makers connect with other stakeholders to have a positive social impact.

The Chapter 6 has addressed the fourth research objective, which is "to investigate and document the key sustainability initiatives that are currently being implemented in the UAE sports organisations." and fourth research question, which is "what are the key sustainability initiatives currently being implemented in the UAE sports sector organisations needed to effect change" of this study. The next chapter (chapter 7) will discuss the key challenges the UAE sports sector organisations face in implementing sustainability initiatives. Also, it discusses the impact of sustainability initiatives on the UAE sports organisations competitiveness.

CHAPTER 7 : THE KEY CHALLENGES AND BENEFITS OF IMPLEMENTING SUSTAINABILITY INITIATIVES WITHIN THE UAE SPORTS SECTOR

7.1 INTRODUCTION

This chapter discusses on the key challenges the UAE sports sector organisations face in implementing sustainability initiatives. Also, it discusses the impact of sustainability initiatives on the UAE sports sector organisations competitiveness. The quantitative results are based on the analysis of the data obtained from the online survey questionnaire (124 responses). The findings are further validated and elaborated using the results from the qualitative data from 30 professionals from 20 organisations. The findings are also substantiated with the relevant literature.

The results are presented in two parts. The first part in section 7.2 presents an analysis of quantitative and qualitative data in relation to the key challenges the UAE sports organisations are facing in implementing sustainability initiatives. Table 7.1 presents eight challenges the UAE sports sector organisations face in implementing sustainability initiatives. Each of these key challenges is discussed in details. Finally, section 7.4 summarises the key findings. In doing so, section 7.2 addresses the fifth research objective, which is “to critically appraise and document the main challenges the UAE sports sector organisations face in implementing sustainability initiatives” and fifth research question, which is “what key challenges do UAE sports sector organisations face in implementing sustainability initiatives”.

The first part in section 7.3 presents an analysis of quantitative and qualitative data in relation to the impact of sustainability initiatives on competitiveness. Table 7.2 presents four key benefits the UAE sports organisations experienced due to implementing sustainability initiatives. Each of these key benefits is discussed in details. Finally, section 7.4 summarises the key findings. In doing so, section 7.2 addresses the sixth research objective, which is "to critically appraise and document the extent to which key sustainability initiatives contribute to competitiveness" and sixth research question, which is "what positive impact does sustainability initiatives have on competitiveness".

7.2 THE KEY CHALLENGES THE UAE SPORTS SECTOR ORGANISATIONS FACE IN IMPLEMENTING SUSTAINABILITY INITIATIVES

Through the online survey, respondents were asked to indicate the level of challenge faced when implementing sustainability initiatives in the UAE sports organisations on a 4-point Likert item: 4 = Very challenging, 3 = challenging, 2 = Fairly challenging, and 1 = Not at all challenging. It is apparent from Table 7.1 that lack of knowledge is the most important challenge for implementing sustainability initiatives in the UAE sports sector. This is followed by lack of business case, culture for sustainability, current economic climate, lack of leadership, lack of management commitment, lack of government support, and lack of resources for sustainability.

The current study results suggest that lack of knowledge related to sustainability is hindering the process of implementing sustainability strategies in the UAE sports sector. As Doppelt (2010) noted achieving sustainability means change for the industry, and that such a process of change depends on the ability of stakeholders and individual organisations to create and use new knowledge. Therefore, in creating an organisation's knowledge assets a major

challenge becomes the handling of the dynamic aspect of the organisation's environment, as well as of the dynamic character of the knowledge base itself.

Table 7.1: The level of challenge faced when implementing sustainability initiatives in the UAE sports organisations (N=124)

Key challenges for implementation of sustainability initiatives within in the UAE sports sector	Overall challenge
Lack of knowledge	3.9
Lack of business case	3.8
Culture for sustainability	3.7
Current economic climate	3.7
Lack of leadership	3.6
Lack of management commitment	3.6
Lack of government support	3.5
Lack of resources for sustainability initiatives	3.4

In order to further validate views of the survey respondents, during face-to-face interviews, interviewees were asked about the challenges for implementing sustainability initiatives in their organisations. Analysis of the qualitative data is discussed below in detail.

7.2.1 Lack of knowledge

According to Aikman (2014) a body of knowledge will leave when staff retire, resulting in a critical gap to be left resulting in aspects to be under or over looked in the future. In this study, overwhelmingly, 90% (27 of the 30) of the interviewees noted that the lack of knowledge is a very challenging aspect of the implementing sustainability initiatives.

Table 7.2: The key challenges the UAE sports sector organisations face in implementing sustainability initiatives (N=30)

Sl. No	Key challenges for implementation of sustainability initiatives within in the UAE sports sector	Total number of interviewees cited (N=30)
1.	Lack of knowledge	90%
2.	Lack of business case	87%
3.	Creating a culture of sustainability	83%
4.	Current economic environment	77%
5.	Lack of leadership	70%
6.	Lack of top management commitment	60%
7.	Lack of government support	50%
8.	Lack of resources for sustainability initiatives	47%

Neef (2003) noted that providing key tacit and explicit knowledge to decision makers during incident (e.g. accident at construction site) or potential crisis (e.g. hurricane) seems to be critical for effective decision-making. Decision making in incidents such as workplace accidents, terrorists attacks, flooding or energy crisis management process should involve consultation with an incident management team, made up of experts from a community of practice or a knowledge network, who are best able to analyse, debate, and help to agree on a course of action. The decision-making process, therefore, becomes much better informed and balanced, with contributions from people who understand the situation, from experts who have experience with similar events, from those who can advise on scenarios and plans for resolution, and from the decision makers themselves. Therefore access and speed are often crucial to the success of incident or potential crisis management. Therefore, managing knowledge associated with sustainability initiatives may bring together critical tacit and

explicit knowledge of individuals, team members, an organisation and its stakeholders, for effective decision making.

The major parts of awareness in the strategic process are evaluating and building awareness of the relevance of sustainability within the sport organisation and developing a common language and understanding around sustainability. Building awareness often starts with a dialogue of what some of the challenges the organisation is facing are and how sustainability can help address the challenges. This leads to identification of where sustainability applies to the organisation, and should go beyond the business (or cost savings) case and look at internal operation and human resources to the perceptions of the sport organisation brand.

7.2.2 Lack of business case

Fundamental to all management decisions is a thorough justification of why chosen operational actions will work (e.g., management strategy) and how such actions link to operational goals and objectives (e.g., revenue generation, cost reduction). The decisions made by sports managers are based not only on prior organisational knowledge and research, but on personal values and beliefs (Stern, 2000). The emerging role of the natural environment in sport challenges sport managers to understand their own views on the environment and on the enabling and constraining elements within their operational context (Hums *et al*., 1999).

Lack of appropriate business case is the main reason for organisations to slow down the implementation of sustainability strategies (Willord 2012). Building a business case for sustainability is one of the critical steps in selecting and implementing sustainability initiatives. This step enables managers to obtain the resources and organisational support

needed to implement sustainability initiatives (Laszlo, *et al.*, 2005; Salzmanna, *et al.*, 2005). This is the step where managers develop strategic and financial justification for the implementation of sustainability initiatives.

In this study, 87% (26 of the 30) of the interviewees stated that lack of business case for sustainability is another key challenge their organisations have faced in implementing sustainability initiatives. Many of these interviewees suggested that their key decision makers are sceptical about sustainability initiatives because they believe that it will bring extra costs leading to competitive disadvantage. Based on an extensive cross-industry study on the business case for sustainability, Steger (2004) concluded that the business case is clearly industry, if not company or plant specific. This is due to the variety of issues and stakeholders companies have to deal with.

The business case for sustainability does not exist at large or in a vacuum; it has to be built in relation to individual companies. Sustainability focuses on a row of changing factors in the environment within which sports organisations have to manage. A basic business case may be grounded in the strategic review process. Most sports sector organisations face a rapidly changing environment in which they need to respond to new pressures. The costs of failing to move with the times can be high (Winsemius and Guntram, 2002; Salzmanna, *et al.*, 2005). Therefore, it can be difficult to implement sustainability initiatives when competitive pressure is high without any business case. In addition, business case is not a generic argument that corporate sustainability strategies are the right choice for all companies in all situations, but rather something that must be carefully honed to the specific circumstances of individual companies operating in unique positions within distinct industries. Successes in whole

industries and at other companies are useful examples, but the case still has to be applied to one company at a time (Reed, 2001).

7.2.3 Creating a culture of sustainability

In this study, 83% (25 of the 30) of the interviewees noted that another key challenge for implementing sustainability initiatives is difficulty in creating a culture of sustainability. Processes relating to sustainability are dynamic rather than static, and organisations wanting to move down the path of sustainability need to reflect this. Change and dynamic relationships are integral to sustainable systems, and the culture of an organisation plays a vital role in driving the behaviours and attitudes that support rather than hinder change (Brown, 2005). Therefore, UAE sports organisation needs to engage in a dramatic culture change in order to respond to sustainability challenges. For instance, Hoffman (1993) argues that where the sustainability values are incongruent with those of the individual, employee satisfaction will fall, leading to problematic human resource management and organisational inefficiency.

7.2.4 Current economic environment

The current economic pressures place greater emphasis on the need for the UAE's business to maintain and improve competitiveness. In this study, 77% (23 of the 30) of the interviewees stated that the current economic environment is very challenging when implementing sustainability initiatives. This has been indicated possibly due to the reduced membership and reduced spending capacity of the sports clubs users. For instance one of the interviewees pointed out challenges due to the current economic environment:

> "Customer affordability to pay membership fees during recession is very challenging our business".

From the above statement, it is clear that due to the current economic environment of the UAE, sports organisations are facing threats from securing enough finance to be able to efficiently adapt to sustainability initiatives. Similarly, customer affordability will be an issue as customers need to be satisfied with charging rates, but organisations need to attain greater income for continued progression. In addition, business priorities will be affected significantly as there may not be enough time or resources to invest in all aspects, causing areas of organisations to lack in competitiveness. This is emphasised by Porter (1985) whom acknowledges that 'competition is at the core of the success or failure of firms'. Thus, if organisations cannot maintain or improve their competitiveness then this will hinder them in the conflict for competitive advantage.

7.2.5 Lack of leadership

In this study, 70% (21 of the 32) of the interviewees noted that the lack of leadership is very challenging when implementing sustainability initiatives. Leaders need to be aware of the growing resources available to assist in their efforts to make change. The reason for this is best described by Doppelt (2010) who states that in order for organisations to completely embrace the concept of sustainability and be successful they require a new, exciting, and dynamic form of leadership. However, the lack of leadership provides a challenge to implement sustainability initiatives successfully.

Ajarimah (2001) noted that the challenges for leaders are immense and new leadership approaches and skills are required, leadership commitment to sustainability initiatives would

assist in breaking down barriers to achieving sustainability goals - barriers such as tunnel vision, past practice, old ideas and cultural frameworks that together combine to discourage new visions of the future. As more industry leaders realise the importance of sustainability, more advancement can be made across the sports industry as a whole. Organisation personnel will be able to utilise more trained incoming hires (e.g., educated in sport facility management and green practices) as well as tap into internal and external sources of expertise. The point about education is important as more sport management programs develop sustainability elements within a given curriculum and diverse hires are made from a variety of backgrounds. A key issue is identifying the organisation's needs in a strategic manner to determine short-, medium-, and long-term needs and action areas. Then, the human resource element and external skill assistance can be determined clearly. In other words, they need to know what they do not know to address the situation.

Sports sector has long been a vehicle for social movements and conversations (Smith and Westerbeek 2007), and the sustainability movement is being heralded by the sport industry, paving a path for innovation and adoption of eco-consciousness across its communities. The UAE sports sector is taking a leadership role as a means to accommodate the expected environmental changes; survival and sustainability are key outcomes of environmental consideration.

7.2.6 Lack of top management commitment

In this study, 60% (18 of the 30) of the interviewees stated that lack of commitment is very challenging for organisations when implementing sustainability initiatives. Some of the key reasons for the lack of commitment for implementing sustainability initiatives could include too much work, job burnout, work-life balance, lack of incentives, lack of recognition, lack of

support from management, lack of expertise, lack of training, and lack of support from clients. Tichy and Devanna (1986) identified three reasons for an organisation to present a lack of commitment towards implementing sustainability strategies such as possible technical barriers, political reasons, and cultural reasons.

This result suggests organisations are facing issues, such as management not being entirely involved in the implementation of strategies. For instance, when CSR is being implemented if top management are disengaged and poor communication takes place then the implementation of CSR will be ineffective (Schwelder, 2011). In other words, top management in organisations are committed to participate in overseeing the implementation of sustainability initiatives and revise policies if needed (Renukappa *et al.,* 2014).

7.2.7 Lack of government support

In this study, 50% (15 of the 30) of the interviewees noted that lack of government support in applying new technologies was very challenging for their organisations. Schwedler (2011) states that new technological developments that are proven to work better than existing methods may not be approved by regulators. Thus, it is clear that even if organisations want to implement better technologies they may not be able to be implemented. In addition, some of the interviewees noted that regulators seeing expenditure for new methods as inefficiency was very challenging for their organisations implementing sustainability initiatives. This suggests that sports organisations when increasing operation expenditure will be seen as an increase in inefficiency.

It is argued that organisations to implement types of renewable energy schemes and approaches such as solar and wind aren’t allowed. In consequence of this, it can be foreseen

that this will reduce differentiation within industry as organisations are only allowed to implement aspects in some circumstances that regulators see fit. It is interesting to note, regulators are promoting sustainable innovations, but then seeing it as inefficiency when sports organisations increase expenditure in finding new methods. Hence, these two factors are challenges to the competitiveness of organisations as this possibly will remove the factor of uniqueness from the industry, which in hand will cause organisations to think in a one dimensional perspective. This is better illustrated by one of the interviewees that:

> 'The regulator is generally supportive of implementing sustainable solutions and is accepting that there is a higher risk with implementing innovative solutions'

From the statement above it can be suggested that some sports organisations do not see regulators as a hindrance as some accept that there is a higher risk, thus by are not seeing expenditure as inefficiency and generally are supportive in applying new technologies.

7.2.8 Lack of resources for sustainability initiatives

In this study, 47% (14 of the 30) of the interviewees noted that another key challenge their organisations face in implementing sustainability initiatives is lack of resources. Most often cited concerns include: lack of time, lack of financial resources, lack of skills and lack of training staff. From the above results it is evident that lack of resources is one of the most important challenges for the UAE sports sector organisations. Lack of resources can result in 'add on' rather than integrated sustainability strategies, which are unlikely to succeed (Wirtenberg, *et al.*, 2007). Since sustainability initiatives require organisations to manage complex issues and sometimes in doing so it makes difficult trade-offs. Therefore, organisations need the right skills to cope with such complex challenges.

Senge and Carstedt (2001) stated that change efforts do not just approach business issues as onetime problems needing a solution. They see many business problems as symptomatic of deeper issues. For example, nearly everyone in an office is aware of a chronic problem consuming resources and destroying morale, but no one does anything about it. The 'problem' in such a case is not the obvious symptoms that need to be fixed. The real problem is the forces that have kept people from doing anything about these symptoms for so long. Tackling such fundamental problems requires time for reflection, a deliberate focus on challenging difficult 'undiscussable' issues, and attempt to bridge internal boundaries to help grapple system wide problems (Senge, 1999; Senge, *et al.*, 2007). Therefore, the amount of investment of time, financial and human resources allocated to sustainability projects will significantly impact the ability to implement sustainability initiatives.

7.3 THE IMPACT OF SUSTAINABILITY INITAITIVES ON ORGANISATIONAL COMPETITIVENESS

In the current study, through online survey questionnaire respondents were asked to indicate the level of impact of sustainability initiatives have on competitiveness on a four-point Likert scale ranging from "a very high level of positive impact"(4), "high level of positive impact"(3), "a fairly high level of positive impact"(2), and "low level of positive impact"(1) (see Appendix B: Online Questionnaire). Table 7.3 shows the level of impact of sustainability initiatives have on the competitiveness of UAE sports sector organisations as indicated by the online survey respondents. From the Table 7.3 it is clear that the perceived level of positive impact of sustainability initiatives on enhanced profitability is in general a very high positive. This is followed by: improved image, enhanced business opportunities, superior customer satisfaction, improved stakeholder satisfaction, and improved innovation.

Table 7.3: The level of impact of sustainability initiatives on competitiveness of UAE sports organisations (N=124)

Key benefits of implementation of sustainability initiatives	Overall benefits
Enhanced profitability	3.9
Improved image	3.8
Enhanced business opportunities	3.7
Superior customer satisfaction	3.4
Improved stakeholder satisfaction	3.3
Improved innovation	3.1

It is clear from the current study results that reducing the amount of resources (e.g. energy consumption, water consumption), which can improve sports organisation's cost savings while decreasing its environmental impact. Therefore, organisations are experiencing more cost savings through sustainability initiatives such as energy saving, water conservation and waste reduction initiatives. Similarly, the social responsibility initiatives generally have a very high level of positive impact on the organisational reputation compared to other sustainability initiatives. This could be due to the fact that social responsibility initiatives have the most ability to generate feelings and goodwill among employees and members of the community at the same. Given the central role corporations play in generating the wealth and well-being of society, a greater awareness of their positive impact could help create a more receptive societal context (Handy, 2002).

Williams and Barrett (2000) provide more evidence in support of a link between community engagement and firm reputation. In addition, they show that the link between community activities and reputation is stronger among companies that more frequently violate occupational health and safety and environmental regulations. They argue that, among other

things, charitable giving can partially restore a firm's reputation after it has committed illegal acts (Williams and Barrett, 2000).

In the current study, during face-to-face interviews, interviewees were asked about their perceived positive impact of sustainability initiatives on competitiveness. Table 7.4 presents the data on perceived positive impact of sustainability initiatives on competitiveness. An inspection of Table 7.4 revealed that sustainability initiatives have high positive impact on improved image (83%). This is closely followed by superior customer satisfaction (70%), enhanced profitability (67%), and improved stakeholder satisfaction (57%).

Table 7.4: The perceived positive impact of sustainability initiatives on competitiveness (N=30)

Sl. No	Impact of sustainability initiatives on competitiveness	Total number of interviewees cited (N=30)
1.	Improved image	83% (25)
2.	Superior customer satisfaction	70% (21)
3.	Enhanced profitability	67% (20)
4.	Improved stakeholder satisfaction	57% (17)

7.3.1 Improved image

According to Davies *et al*. (2002), the reputation and image of an organisation are at the heart of a company's success. In this study, 83% (25 of the 30) of the interviewees stated that implementation of sustainability initiatives have very high level of positive impact on image of an organisation. Some of the interviewees noted that their organisation sustainability initiatives such as charitable activities, providing job opportunities for local communities, community education and outreach activities, and environmental awareness programmes are increased visibility and reputation. For instance, one of the interviewees pointed out that:

'Cost efficiency leaders and branding differential'

From the above statement it is clear that organisations are striving towards embedding competitiveness into the core of all aspects of their organisation though sustainable initiatives.

A seminal empirical study by Fombrun and Shanley (1990) provides evidence that social responsiveness, as measured by the level of organisational charitable donations and the presence of a separately endowed organisational charitable foundation, is positively associated with reputation. Williams and Barrett (2000) provide more evidence in support of a link between community engagement and organisation reputation. In addition, they show that the link between community activities and reputation is stronger among organisations that more frequently violate occupational health and safety and environmental regulations. They argue that, among other things, charitable giving can partially restore a firm's reputation after it has committed illegal acts (Williams and Barrett, 2000).

Davies *et al*. (2002) states that the positive image of a company produces financial value, companies achieve competitiveness from being better regarded than their peers. This can come from several different factors with the image of a company being an important factor. As such, managers build strategies to generating favourable perceptions of their companies in the minds of possible consumers.

7.3.2 Superior customer satisfaction

In this study, 70% (21 of the 30) of the interviewees noted that implementation of sustainability initiatives have very high level of positive impact on superior customer satisfaction. According to Sheth (2001) there are five major competitive advantages gained through customer satisfaction which is the improved profitability due to repeat use of

services, higher prices for services leading to higher profits, support from satisfied customer in times of corporate crisis, word of mouth publicity from satisfied customers and satisfied customers buy other products and services.

7.3.3 Enhanced profitability

Of the interviewees, 67% (20 of the 30) noted that their organisations efforts in sustainability initiatives have improved profitability. For example, one of an interview noted that through implementing waste recycling programmes have influenced material cost savings. For instance, one of the interviewees noted that:

> "I must proudly say that our club cost savings has improved over years because of our water conservation behaviours and energy saving practices demonstrated over the years".

Aforementioned view of the interviewee clearly suggests that organisations are experiencing cost savings through various sustainability strategies. Efforts to reduce environmental process costs can provide the context for process innovation and reveal other opportunities for redesigning value-added activities.

According to Porter (2004), water companies and organisations, in general, can generate enhanced profitability by having a cost advantage over its competitors. This means that if the cumulative cost of performing all value activities is lower than competitors costs an organisation can develop a cost advantage over its competitors, improving competitiveness within the industry.

Porter (2004) explains this by stating that there are two ways in which an organisation can gain a cost advantage over its competitors, the first is the control cost drivers and secondly reconfiguration of their value chain as to reduce costs. The sustainability of the advantage is dependent upon the degree of difficulty is required for competitors to replicate or imitate.

A cost advantage in many cases leads to increased profitability and superior performance which creates a competitive advantage for the organisation which therefore leads to improve competitiveness.

7.3.4 Improved stakeholder satisfaction

Of the interviewees, 57% (17 of the 30) noted that their sustainability initiatives had positive impact on their stakeholder satisfaction. For example, organisations' policies on health and safety not only affect their costs directly but also impact on other stakeholders in different ways, for example through their effects on the risk of damage to the health of employees and local communities, on potential healthcare expenditures and through their impact on corporate reputation.

Stakeholder satisfaction depends on the company's ability to meet the personal expectations of stakeholders (Rejeb and Frioui, 2012). The majority of the time this personal expectation are increased revenue and profits. As such improved stakeholder satisfaction suggests that the company is in a recently good position which suggests that the company is making money and has a comparative advantage over other organisation, leading to a high positive impact on competitiveness within the industry (Mitchell *et al*. 1997).

7.4 SUMMARY

Introducing new initiatives with specific sustainability criteria can potentially cause friction with existing sponsors if there is a resulting conflict of alignment. Collaboration and sensitivity to preserving the endurance of the relationship must be part of the process. When pursuing sponsorships for sustainability platforms, sports organisations can potentially find it challenging to communicate the value to the various stakeholders in the sponsorship process.

It can be foreseen that efforts of sustainability initiatives play key roles in organisational competitiveness. If such sustainability initiatives were not implemented then organisations would possibly lose the ability to gain competitive advantage over others, which in hand would have negatives effects on the industry's structure. An organisation can have two approaches with regard to implementing and developing innovation. Firstly an organisation can become the second adopters of new technology from a previous organisation and adopt these new technologies and processes and secondly an organisation can have its own in-house research and development which develops its own technology. As stated by Porter (2004) both of these approaches can gain an organisation a cost advantage over its competitors, however there a different initial costs and sustainability issues for both approached.

Bringing in existing technologies is cheaper than developing bespoke innovative solutions however whilst this may provide a short-term benefit, other sports organisations can also implement these technologies and as such the sustainability of the advantage reduced. It is very expensive for an organisation to develop its technologies and whilst this method is more sustainable for competition than implementing existing technologies the initial costs are higher (Nidumolu *et al*. 2009)

This chapter discussed the key challenges the UAE sports sector organisations face in implementing sustainability initiatives. Firstly, eight challenges UAE sports sector organisations faced in implementing sustainability initiatives were listed and discussed. The challenges are: lack of knowledge, lack of business case, culture for sustainability, current economic climate, lack of leadership, lack of management commitment, lack of government support, and lack of resources for sustainability initiatives.

Overall, the following inferences and implications could be documented:

- Government support for using new technologies, leadership for change, positive business case for sustainability, organisational culture for change, learning organisation, rewards system, and sufficient resources allocation for sustainability initiatives are key ingredients for successful deployment of sustainability initiatives.
- The process of developing and executing sustainability initiatives within sports organisations is particularly complex and challenging because of the holistic and integrated way that a very broad range of short-term and long-term issues need to be considered, and broad array of stakeholders that must be engaged in an inclusive and collaborative manner. Therefore, a consistent, thought-through top management commitment is an absolute necessary for successful implementation of sustainability initiatives.
- The lack of leadership skills for successful deployment of sustainability initiatives is one of the most important challenges for the UAE sports organisation. Therefore, there is an urgent need to develop and deliver a bespoke leadership training programs to address, improve and measure the effectiveness of leadership skills for driving change towards sustainability.

- To address sports sector sustainability issues, knowledge is increasingly being accessed and shared across sectors and national boundaries. Cross boundary knowledge transactions also apply to boundaries within organisations, between functional specialism's and between disciplines. Therefore, stakeholders' collaboration is essential for building and managing knowledge in the UAE sports sector organisations.
- The scarcity of sustainability-related knowledge and expertise a huge challenge for many UAE sports sector organisations. Therefore, training and education related to the management of sustainability-knowledge will help leaders, managers, and change agents to better understand on how to craft and implement various sustainability strategies for competitive advantage.
- Corporate portals seem to present the potential of providing organisations with a rich and complex shared information and knowledge workspace for the generation, exchange, and use of knowledge. They synchronise knowledge and applications, creating a single view into the organisation's intellectual capital. But developing corporate portals and building the critical mass of users required to make them successful is not an easy task.
- Some sort of standardisation of measuring tools towards sustainability approach within the sports industry is necessary, so as to clubs and facilities can measure their levels of performance and progress more effectively. This should cover both sustainability and sports management principles, thus creates appropriate integration of both perceptions, confirming a sufficient level of obligation, awareness and skills within organisations counting understanding the fundamental perceptions for effective application of sustainability.

- In the new global business environment, irrespective of business sector, organisations that deliver profits to shareholders while destroying value for society are incurring hidden liabilities. Those that offer solutions to growing environmental and social challenges are discovering huge business opportunities and benefits. Therefore, organisations must implement sustainability initiatives to reap potential economic, social and environmental benefits.
- In order to improve UAE sports reputation in the first place, sports organisations need to carefully consider environmental, social and economic issues of their business activities to enhance and protect their reputation. Among other business benefits, a sustainability-related reputation draws in higher income, attracts and retains talented workforce, and can ease negotiations with government regulators concerned about industry impacts.
- The nature of sustainable competitive advantage varies for different sports organisations and is dependent on their particular business, strategy and stage of sustainability initiatives.

This Chapter 7 has addressed the fifth research objective of the current study, which is "to critically appraise and document the main challenges associated with implementing sustainability initiatives in the UAE sports sector organisations"; and research questions fifth, which is "what key challenges do UAE sports sector organisations face in implementing sustainability initiatives" of this current study. This chapter also addresses sixth research objective of the current study, which is "to critically appraise and document the extent to which key sustainability initiatives contribute to competitiveness"; and research questions sixth, which is "what positive impact does sustainability initiatives have on competitiveness?" of this current study.

The next chapter (i.e. chapter 8) will discuss the development and evaluation of sustainable assessment framework for the benefit of UAE sports sector organisations.

CHAPTER 8 : A SUSTAINABLE ASSESSMENT FRAMEWORK FOR SPORTS SECTOR ORGANISATIONS

8.1 INTRODUCTION

This chapter presents a sustainable assessment framework for managing transformational change towards sustainability. The findings from the previous stages of this research study were taken into consideration in the development of the assessment framework. The developed assessment framework uses the environmental, social and economic dimensions of sustainability as its foundation. The developed assessment framework provides broad guidance for the integration of sustainability initiatives into day-to-day operational decisions. Section 8.2 discusses the rationale for the framework. Section 8.3 discusses the proposed framework. While section 8.4 summaries the key benefits of the framework.

This assessment framework is intended to offer guidance for the successful implementation of sustainability initiatives to simultaneously improve environmental, social and economic performance. In doing so, chapter 8 addresses the sixth research objective of this current study, which is "to develop and evaluate a sustainable assessment framework for the benefit of UAE sports sector organisations."

8.2 RATIONALE FOR DEVELOPING A SUSTAINABLE ASSESSMENT FRAMEWORK

According to the International Olympic Committee (IOC) (2012) sport represents broad opportunities to promote environmental awareness, capacity building and far-reaching actions for environmental, social, and economic development across society. It also can be a means of achieving peace and reconciliation as a fundamental prerequisite for sustainability principles to be shared and applied (IOC, 2012).

Iacovidou *et al*., (2017) argued that with sustainability becoming integral to the decision making of industries and policy making (Hellweg and Canals, 2014), assessment of the positive and negative impacts of resource recovery operations has become common. Accordingly, Srinivasan *et al*., (2011) noted that measurement science is vital in evaluating environmental impacts to assess sustainability. However, these assessments have been limited to the accounting of only environmental impacts as supported by Life Cycle Analysis (LCA). With increasing calls for sustainability assessment to become a truly integrated science (Little *et al*., 2016) and (Millward-Hopkins *et al*, 2017), concerted efforts have been made to develop methods that align the practice of sustainability assessment of resource recovery processes with the three-pillars of sustainability, namely environmental, economic and social (Guinee *et al*., 2010; Kloepffer, 2008). As such, Life Cycle Sustainability Assessment (LCSA) has extended LCA by integrating it with social Life Cycle Analysis (sLCA) and Life Cycle Costing (LCC) that account for the social and economic domains of resource recovery systems, respectively, alongside the environmental (Guinee *et al*., 2010; Kloepffer, 2008).

Sala *et al*., (2013a) and Sala *et al*., (2013b) indicated that the implementation of LCSA as a way to inform transformative, systemic changes towards sustainability, has presented an important challenge. Stefanova *et al*., (2014) further pointed out that the inclusion of social and economic dimensions further complicated the already difficult task of drawing consistent system boundaries, requiring consideration of the socio-economic context within which resource recovery systems are embedded. On the other hand, Sala *et al*., (2015) noted that sustainability assessment (SA) is one of the most complex types of appraisal methodologies. Not only this does entail multidisciplinary aspects (environmental, economic and social), but also cultural and value-based elements. Moreover, SA is usually conducted for supporting

decision making and policy development in a broad context. In line, Hacking and Guthrie (2008) noted that assessing sustainability is increasingly becoming common practice in product, policy, and institutional appraisals. Concepts such as "Integrated Assessment" and "Sustainability Assessment" are introduced to offer 'new' perspectives to impact assessment geared towards planning and decision-making on sustainable development (SD).

Srinivasan *et al*., (2011) highlighted that there are several types of frameworks, analytical tools and metrics that have been developed to assess the achievement of sustainability by a project under consideration. The purpose of such frameworks, tools and metrics is to evaluate impact to the environment at different scales depending on the project boundaries. When it touches projects at a larger–scale, sustainability frameworks play a major role. Such frameworks use structured protocols in addition to varied analytical tools for evaluation. These analytical tools are specific to the problem at-hand in terms of magnitude and purpose. Srinivasan *et al*., (2011) also argued that the selection of a tool will be determined based on the objective of the problem such as a reductionist or non-reductionist approach. A reductionist tool measures the performance by compiling and then integrating measurable characteristics of the project. Examples of reductionist tools include economic and monetary tools, biophysical models and thermodynamic methods, and performance evaluation tools. Non-reductionists tools integrate methodological choices which are subjective in nature, and may be particularly influenced by the analyst performing the analysis. Multi Criteria Analysis (MCA) is an example of such a tool. Likewise, metrics measure the achievement of a project in sustainability terms. For example, the project may perform in an energy efficient manner during its lifetime. There are metrics available specific to the efficient use of energy in building operations and those may be applied to the project to measure and describe the project's level of achievement in energy efficiency (Srinivasan *et al*., 2011).

Beer and Nohria (2000) noted that one of the key reasons for failure of any change initiatives is due to lack of an integrated framework for understanding change. Therefore, it requires a framework that allows executives to identify emerging sustainability issues, assess the impact of the company's ties on all its key stakeholders, measure the business value of relevant sustainability initiatives, and capture that value.

The emergent framework of the sustainability initiatives implementation process brought to light the interconnected nature between the activities within the process phases and the influence factors that affect the success of these activities. The lack of attention given to fulfilling all the activities within the phases and effectively managing the influence factors was observed to bring about poor or sub-par levels of achievements in terms of sustainability objectives. In this study, during face-to-face interviews, interviewees were asked the need for a for a sustainable assessment framework for managing transformational change towards sustainability.

Of the interviewees, 93% (28 of the 30) of the interviewees cited the need for a holistic, comprehensive assessment framework for addressing the issues relating to both the uptake and implementation of sustainability initiatives. Many interviewees noted that their executives are familiar with managing business as usual, whether in terms of economic value added or other measures. However, their executives are less knowledgeable about developing, deploying, managing and measuring social and environmental issues and values. Considering the above discussions, it is clear that there exists a need for developing a holistic, comprehensive strategic sustainable assessment framework for managing transformational change towards sustainability. Such sustainable assessment framework should be clear and easily understood by a variety of stakeholders with diverse backgrounds, who are involved in

the different phases of the implementation process. The framework should also have a means of aligning and integrating the organisation level objectives and actions.

8.3 WHAT IS A FRAMEWORK?

Sustainability assessment approaches may be categorised based on the hierarchical structure in their application, e.g., frameworks, analytical tools and metrics. In other words, these approaches can be assessed using frameworks or structured protocols to study several options within the framework using analytical tools, and to define such project occurrences using metrics (Srinivasan *et al*., 2011).

The first level category includes the assessment frameworks. These are integrated and structured assessment models that aid in the comparison of various alternatives for projects and policies. Examples include environmental impact assessment (EIA) and strategic environmental accounting (SEA). The second level category is comprised of analytical evaluation tools that assist in decision-making or in finding potential solutions to specific problems within the framework (Gasparatos *et al*., 2010). However, to preserve the generic nature of the framework, it does not identify the analytical tools that may be used; rather it provides the protocols for assessment. These tools are discussed under two second level sub-categories - reductionist and non-reductionist tools. The third level category of sustainability measurement science includes environmental metrics (Srinivasan *et al*., 2011).

Environmental considerations have gained significant importance for assessing a project's impact, both positive and negative. The framework for sustainability assessment tools may contain the following – temporal characteristics for evaluation of past and / or future

outcomes; focus areas such as a product or a proposed change in policy; and integration of nature-society systems. Based on the above, Ness *et al* (2007), categorised three major areas – (a) indicators and indices, (b) product-related assessment tools, and (c) integrated assessment. Under this umbrella of sustainability assessment tools, indicators are simple measures which then can be aggregated to an index. Examples include Ecological Footprint Analysis (EFA), Wellbeing Index (WI), Environmental Sustainability Index (ESI), Human Development Index (HDI), etc. (Srinivasan *et al*., 2011).

It is widely recognised that, until now, many sustainability issues have been tackled by distinct sectors- organisations whose primary concerns include, for example, transport, fisheries or energy – rather than by attempting to find the integrated cross-sectoral solutions for the long term (IOC, 2012). However, the IOC was one of the first and largest sporting organisations to place sport at the service of humanity and a sustainable environment. It was clear that, through sport, the Olympic movement could make a significant contribution to environmental, social and economic development. From inception the Olympic movement has viewed sport as a stimulus for positive change, and to place sport at the service of the harmonious development of humankind, with a view to promoting a peaceful society concerned with the preservation of human dignity (IOC, 2012).

To this end, the Olympic movement has continuously increased its activities to encompass societal problems such as the advancement of women, the inclusion and recognition of indigenous communities, environmental education and stewardship and HIV/Aids prevention amongst other apparently non-sporting topics. With representation in 204 countries, the Olympic movement has a global reach.

In addition, the OM has engaged deeply with a wide variety of institutions, including UNDP, UNEP, UNESCO and UN-Habitat, as well as internationally- recognised NGOs in the environmental field such as Greenpeace and the WWF, and has recently been granted observer status by the UN General Assembly (IOC, 2012). Environmental considerations have become an integral part of every aspect of the Olympic Games, from the early planning stage to the post-Games legacy. Over the years, the Games have become a showcase for sustainability innovation and a role model for other projects around the word (IOC, 2011). Building on this experience the IOC has also supported and participated in the development and creation of the new Global Reporting Initiative (GRI). The standardised framework for sustainability reporting aims to develop a tool for event organisers that will provide guidance and ensure that sustainability reporting covers all relevant issues (IOC, 2011).

8.4 DIFFERENT FRAMEWORKS FOR ASSESSING SUSTAINABILITY

Srinivasan *et al*., (2011) noted that in an SEA framework, the strategic decision-making takes into account the environmental considerations in support of environmentally sound and sustainable development. The framework uses a step-by-step, methodological approach through mapping plan / policy or program / project making them relevant to sustainability assessment. The steps include definition of objectives; formulation of alternatives; scenario analysis; environmental analysis; valuation and conclusions (Nilsson *et al*., 2001). However, it does not recommend the "best" analytical tool to be used for the analysis. The quality of the analysis through the use of the analytical tools is critical as it is the vehicle that provides necessary information to decision-makers. Gasparatos (2010) discussed the SEA as an example to show differences between evaluation tools and frameworks. Such assessments

have been effective for evaluating several applications including energy policies (Nilsson *et al*., 2001; Srinivasan *et al*., 2011).

Both EIA and SEA frameworks may be used to evaluate impact to the environment particularly at a larger scale. Depending on the project to be evaluated, evaluation tools and metrics may be selected to be part of the framework. The selection must coincide with project objectives and specific outcomes that are required to enable environmental decision-making (Srinivasan *et al*., 2011). There are a number of regulations relating to sustainability that are either a statutory or legal requirement implemented by the government or imposed as a condition of the planning permission or the project funding.

For instance in the UK, the four main regulations applicable to a building sports project are: Energy Performance Certificates, Building Regulations Part L; BREEAM and the Merton Rule (Sport England, 2016). Energy Performance Certificates (EPC) has been introduced to help improve awareness of the energy efficiency of buildings. All sports clubhouses now require an EPC on completion of construction, sale or rental. A specialist consultant will be required to provide calculations and issue the certificate (Sport England, 2016). ‘Conservation of Fuel and Power‘ applies to any building or Renovation work. It includes the following: achieving acceptable building carbon dioxide emissions; imits on U-values (i.e. the thermal performance of the building envelope); air permeability, heating controls, lighting efficiency and pipe work insulation; limiting the effect of solar gain, for example, by shading and orientation; quality of construction and commissioning, for example, continuity of insulation and heating controls; and providing information in the form of a building manual to help users understand the systems and carry out maintenance and monitoring of energy consumption.

BREEAM is a widely used environmental assessment method for buildings developed by the Building Research Establishment (BRE). The building is scored against a list of criteria and the resulting BREEAM rating depends on the number of credits achieved (Sport England, 2016). A target BREEAM rating is usually specified by the client and many public and private organisations require new buildings to have a specific BREEAM rating. The approach can minimise running costs and carbon emissions and often for commercial buildings generate a higher resale value or rental with a BREEAM accreditation. A specific BREEAM rating can also be a requirement of Planning Permission and applicable to a clubhouse project. This would then be a statutory requirement, and without compliance, the Planning Permission would not be valid. A rating is achieved by meeting established criteria for which credits are awarded. There are different categories for Energy, Water Consumption and Efficiency, Pollution and Health and Wellbeing.

London 2012 pledged to treat sustainability a major priority and aimed to establish sustainability benchmark for the design and construction of the major sporting facilities and surroundings Olympic Park that were above industry standard. One tool trialed to support the achievement of these objectives was a new version of the Building Research Establishment Environment Assessment Method (BREEAM). BREEAM is a well-established means of assessing the sustainability of a range of different types of new and existing buildings. However, this was the first time that assessment was created and used for major sports stadia. The intention was to develop a bespoke BREEAM scheme in order to drive reductions in environmental impacts and measure these robustly (Paterson *et al*., 2012).

Using the tailored version of BREEAM provided a method for benchmarking the sustainability impacts of the venues, accounting for the consistent with the objectives of its

sustainable development strategy. Also BREEAM is an independently managed tool that could be externally audited. Moreover, being assessed on BREEAM provided reassurance that the method would build upon the tried and tested approach inherent in the existing BREEAM standards (Paterson *et al*., 2012).

Rio 2016 conducted market analyses and Request for Information reports (RFI) to create the Materiality Matrix, a framework designed to categorise projects according to tangible impact on the three pillars of people, planet and prosperity (Arias *et al*., 2016).

- Planet: greenhouse gas emissions; hazardous substances and materials; packaging; wood and cellulose; material optimisation; energy efficiency; water and sewage; biodiversity
- People: labor practices; non-discrimination and diversity
- Prosperity: local and national supply market development; cost reductions and enhanced competitiveness; development of local labor; creating opportunities for micro, small and medium-sized enterprises (Arias *et al*., 2016).

A project is defined as a specific tender directly related to the preparation and operation of the Games. The four types of projects include: (1) sports; (2) games services (food, waste, security); (3) overlay (temporary infrastructure, tents, containers, portable bathrooms); and (4) operative (paper, printers, desks).

8.5 PROPOSED SUSTAINABLE ASSESSMENT FRAMEWORK

The proposed sustainable assessment framework takes into consideration the three dimensions of sustainable development. It is widely recognised and accepted that sustainability assessment should take into account the three dimensions of sustainable development (Luong *et al*., 2012). Various key issues should be taken into consideration in order to ensure effective application of the sustainable assessment framework. There are

many different sustainable assessment frameworks exist, such frameworks have been useful in contextualising decision-making but may have drawbacks in practical application. It is also important to notice that sports sector projects are particularly challenging in their diversity and range of priorities. It is crucial to the implementing bodies to clearly identify the potential barriers to the effective implementation before selecting or developing sustainability assessment systems. It is also important to clearly set out the ultimate goal, in accordance to supporting the integration of sustainability objectives without imposing a cumbersome and redundant system onto a project.

The developed sustainable assessment framework guide to encourage clients, designers, contractors and facilities managers to embrace the sustainability agenda from the inception of a project, and to treat sustainability as an integral concern throughout rather than as a technological fix that can be bolted on at the end. This framework covers every phase of a project from the development of a vision for sustainability shared between client and design team, through to good practice in the day to day operation of the completed facility. The developed framework is intended to highlight sustainability issues, to act as a starting point for clients and designers, and to provide a range of ideas for consideration. While some principles, like energy conservation, are fundamental, there are many emerging technologies that are undergoing rapid development. For these, it is impossible to provide definitive recommendations. Many of the issues therefore are posed in the form of questions, challenging the delivery team to assess feasibility in the context of a specific project.

The guidance covered various issues including; client and design team vision, site appraisal and renewable energy, protecting and enhancing biodiversity, building design, construction elements, low environmental impact materials and components, lighting, heating, and

ventilation systems, water conservation measures, commissioning and hand-over, and management practices including catering. Facilities for sport, recreation and leisure vary widely from swimming pools to running tracks, and hence, the nature of the sustainability impacts from these different facilities is very different. Hence, the guide indicates the relevance of each issue to each facility type.

Table 8.1: A sustainable assessment framework for sports organisations

Sustainability Issue	Sports Buildings		Sports Pitches and Tracks		Outdoor Pursuits	
	'Dry': Sports Halls, Fitness Centres, Pavilions etc.	**'Wet'**: Swimming Pools, Ice Rinks, Combined Leisure Centres	**Natural Turf:** Pitches, Cricket Squares, Bowling Greens, Golf Courses	**Synthetic Surfaces:** Artificial Pitches, Tracks, Courts, Multi-Use areas	**Land Based:** Cycling, Climbing, Skateboarding etc	**Water Based:** Sailing, Canoeing, Rowing etc
1. Environmental Sustainability						
Client And Design Team Vision						
Client awareness: Is the client aware of the importance of sustainability? This should include:						
• Protecting or enhancing biodiversity;	☐	☐	☐	☐	☐	☐
• Designing to make best use of the natural features of the site including sun, wind and landscape; and	☐	☐	☐	☐	☐	☐
• The choice of intrinsically efficient and controllable engineering systems for heating, lighting and ventilation, and	☐	☐	☐	☐	☐	☐
• Materials should be from renewable sources, with low environmental impact and requiring minimum maintenance.	☐	☐	☐	☐	☐	☐
Client sustainability champion: • Is there a sustainability champion on the client side?	☐	☐	☐	☐	☐	☐
Design team awareness: • Is the design team aware of the importance of environmental sustainability?	☐	☐	☐	☐	☐	☐
• Does it have the experience and access to the necessary expertise to deliver a sustainable project?	☐	☐	☐	☐	☐	☐
Development of a shared vision: • Has a shared vision for environmental sustainability been agreed between the client and the design team?	☐	☐	☐	☐	☐	☐
• Have challenging but realistic objectives been established?	☐	☐	☐	☐	☐	☐

Sustainability Issue	Sports Buildings		Sports Pitches and Tracks		Outdoor Pursuits	
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Setting and meeting sustainability targets:
• Have challenging but achievable targets been set for annual
  o Energy use and
  o Annual water use?
	☐	☐	☐	☐	☐	☐

• Have review and audit points been agreed to ensure standards targets continue to be met throughout the construction programme and, crucially, during operation?	☐	☐	☐	☐	☐	☐
Community Consultation: • Have local communities (or neighbours') been consulted and their concerns or aspirations regarding sustainable development been established, considered and taken into account prior to finalising the design and submission of a planning application?	☐	☐	☐	☐	☐	☐

Sustainable Transport						
Travel plan: Transport to sports facilities may be a major source of environmental impact. • Has a travel plan been prepared to encourage more sustainable forms of transport?	☐	☐	☐	☐	☐	☐
• Will information be provided to staff and users about bus routes and other sustainable forms of transport?	☐	☐	☐	☐	☐	☐
• Will financial incentives be used to encourage staff to cycle to work?	☐	☐	☐	☐	☐	☐
Cycle paths and safe routes: • Is the facility accessible by safe cycle paths?	☐	☐	☐	☐	☐	☐
• And/or are quiet streets that give access to the facility adequately signposted, and are there road markings and cycle-friendly road layouts to encourage users to cycle to the facility?	☐	☐	☐	☐	☐	☐
Measures to encourage cycling: • Will measures to encourage cycling to the facility by staff be provided, such as covered cycle parking and the provision of one or more staff showers?	☐	☐	☐	☐	☐	☐

Sustainability Issue	Sports Buildings		Sports Pitches and Tracks		Outdoor Pursuits	
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Site Appraisal And Renewable Energy						
Site features and potential: • Has the site been assessed for its ecological value and its microclimate, to ensure the shape and planning of the building make best use of daylight, solar gains, wind, and landscaping to enhance building performance, reduce reliance on mechanical services for heating, lighting and ventilation, and provide sheltered entrances?	☐	☐	☐	☐	☐	☐
Combined heat and power: • Has the potential for combined heat and power been examined, particularly in buildings with large demands for hot water in winter such as swimming pools?	☐	☐	☐	☐	☐	☐
Wind power: • Has the feasibility of using wind power to generate electricity been examined?	☐	☐	☐	☐	☐	☐
Photo-voltaic panels: • Has the potential of photo-voltaic (PV) panels been examined?	☐	☐	☐	☐	☐	☐
Solar-thermal panels: • Have solar thermal panels for pre-heating hot water been studied for their feasibility?	☐	☐	☐	☐	☐	☐
Ground source heat pumps: • Has the feasibility of using heat pump to extract heat from the ground been examined?	☐	☐	☐	☐	☐	☐
Rainwater harvesting and use of grey water: • Has the feasibility of rainwater harvesting been investigated? • Can grey water be filtered, treated and recycled?	☐	☐	☐	☐	☐	☐
Conserving water run-off: • Have surface water run-offs been designed in ways which help to conserve water and follow best practice for sustainable urban drainage systems – for example by channelling water from paving (including car parks), roofs, and pitches to soakaways, balancing ponds or existing water courses?	☐	☐	☐	☐	☐	☐

Sustainability Issue	Sports Buildings		Sports Pitches and Tracks		Outdoor Pursuits	
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Protecting And Enhancing Biodiversity						
Assessing plants and wildlife:						
• Have statutory and non-statutory nature conservation organisations been consulted?	☐	☐	☐	☐	☐	☐
• Have specific surveys of plants and wildlife been undertaken by an appropriately qualified ecologist and at different times of the year, to assess the likely impact of the proposed development on species, habitats and/or site features that have biodiversity value?	☐	☐	☐	☐	☐	☐
Avoiding harm to existing biodiversity:	☐	☐	☐	☐	☐	☐
• Have all precautions been taken to reduce harm to existing flora and fauna on the site?						
• If harm cannot be avoided to existing biodiversity, have specific features been added to compensate for unavoidable impact?	☐	☐	☐	☐	☐	☐
Enhancing existing biodiversity:						
• Where the site has limited biodiversity value, have opportunities been taken to create features that can enhance existing flora and fauna?	☐	☐	☐	☐	☐	☐
Ecological management plan:						
• Has an 'ecological management plan' either independently or as part of the 'landscape plan' been prepared setting out good practice guidelines for the management and maintenance of biodiversity features?	☐	☐	☐	☐	☐	☐
Giving priority to native species:						
• Has priority been given to specifying native tree and plant species, which usually offer better habitat opportunities for wildlife than introduced or exotic species?	☐	☐	☐	☐	☐	☐
Drought-resisting plants:						
• To reduce the need for watering, have plants that are known to be drought-resistant been chosen?	☐	☐	☐	☐	☐	☐

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• Is water-based or artificial turf pitches considered?	☐	☐	☐	☐	☐	☐
• Have the implications for grass pitches been weighed against the potential of artificial turf pitches, given the expected intensity of use and playing requirements?	☐	☐	☐	☐	☐	☐
Alternatives to grass on non-sport areas: • Although grass is quite cheap to plant, regular mowing and maintenance costs are high: have low-maintenance alternatives, such as a wildflower meadow, been considered?	☐	☐	☐	☐	☐	☐
Retain topsoil: • Have all possible efforts been made to retain and re-use existing topsoil on the site, rather than importing it from elsewhere?	☐	☐	☐	☐	☐	☐
• Poor quality topsoil can be improved by the addition of peat-free compost, or plants chosen that do not require high quality topsoil.	☐	☐	☐	☐	☐	☐
Use peat-free composts: • Many composts are made from peat, which comes from sensitive ecological wetlands and whose removal is unsustainable: have peat-free composts been specified?	☐	☐	☐	☐	☐	☐
Local and/or on-site composting: • Has locally-produced compost from the local authority's collection of green waste and organic rubbish been investigated?	☐	☐	☐	☐	☐	☐
• Has on-site composting using organic waste been considered?	☐	☐	☐	☐	☐	☐
Protecting landscape features during construction: • Have precautionary measures been taken to ensure existing trees, hedgerows and all other significant landscape features are adequately protected during construction work?	☐	☐	☐	☐	☐	☐
• Tree felling should be done only when absolutely necessary and after ascertaining that no Tree Preservation Orders are in force.	☐	☐	☐	☐	☐	☐
Planting schedule: • Has a landscape plan been prepared showing proposals for trees, shrubs and other plants, including the time of year when each is to be planted, and complete with a maintenance schedule?	☐	☐	☐	☐	☐	☐

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Building Design						
Building shape and form: • Has careful use been made of orientation, plan form and three-dimensional shape to reduce heat losses, to exploit natural light and ventilation, and to reduce artificial lighting, heating, cooling and ventilation loads, while avoiding glare and overheating?	☐	☐	☐	☐	☐	☐
Location of offices: • Have offices been located on external walls to allow daylight and views over the approach to the building?	☐	☐	☐	☐	☐	☐
Space planning: • Have spaces requiring intensive servicing been located adjacent to plant rooms – to minimise ducting/pipework runs to minimise energy loss and increase the potential for heat recovery?	☐	☐	☐	☐	☐	☐
Design for maintenance: • Does the plant room layout allow adequate space for safe inspection, maintenance and upgrading or replacement of equipment and plant?	☐	☐	☐	☐	☐	☐
• Is there external access to ensure minimum disruption?	☐	☐	☐	☐	☐	☐
Zoning: • Have high temperature zones been grouped together with low temperature zones used as buffer spaces reducing heat losses to the exterior?	☐	☐	☐	☐	☐	☐
• Has the adjacency between spaces been considered to minimise unwanted transfer of heat or humidity?	☐	☐	☐	☐	☐	☐
Plant location: Plant produces noise and pollute the environment. • Have they been located carefully to reduce impact affecting health of occupants/users, including immediate environment, etc?	☐	☐	☐	☐	☐	☐
Design for management – sub-metering: • Have electricity, gas, oil and water sub-meters been provided to encourage effective monitoring and management, particularly for: areas of high energy intensity (swimming pools, health suites, and kitchens); and larger usage plant items (air handling units, humidifiers)?	☐	☐	☐	☐	☐	☐

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Construction Elements						
Window design: • Have windows and roof lights been positioned and sized to make best use of daylight while minimising unwanted solar gains, glare and unwanted reflections particularly in pool halls?	☐	☐	☐	☐	☐	☐
Glazing and frame specification: • Has double or triple-glazing been specified for windows and roof lights with window frames at least as well insulated as the glass?	☐	☐	☐	☐	☐	☐
Fabric insulation: • Have high or very high levels of fabric insulation been specified, and especially in pool halls?	☐	☐	☐	☐	☐	☐
Infiltration: • Has unwanted air infiltration been minimised by attention to detailing, specification and site quality control, particularly at junctions between components?	☐	☐	☐	☐	☐	☐
Draughts: • Have revolving doors or draught lobbies been specified to reduce unwanted draughts and heat losses?	☐	☐	☐	☐	☐	☐
Low Environmental Impact Materials And Components						
Considering environmental profiles: Materials and components need different energy inputs during their transport to be processed, their manufacture, and their eventual transport to site. • Have materials and components been selected after comparing their environmental profiles?	☐	☐	☐	☐	☐	☐
Local materials: • Have locally produced materials been used wherever possible, reducing road-miles and helping the local economy?	☐	☐	☐	☐	☐	☐
Avoiding hazardous materials: • Have hazardous materials been avoided wherever possible – such as paints, adhesives and coverings that release volatile organic compounds (VOCs) or semi-volatile organic compounds (SVOCs) into the atmosphere during construction and in use?	☐	☐	☐	☐	☐	☐

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Green alternatives: • Have 'green' materials (such as those made from recycled and/or recyclable materials, from solid timber rather than composites) been properly evaluated and selected wherever possible?	☐	☐	☐	☐	☐	☐
Natural Materials: • Have building products made from natural materials been identified and considered?	☐	☐	☐	☐	☐	☐
Using recycled materials or components: • Have opportunities for using recycled materials or components been taken wherever possible (subject to avoiding re-use of hazardous materials)?	☐	☐	☐	☐	☐	☐
Specifying materials suitable for recycling: • For components needing replacement over the lifetime of the facility, have these been chosen on the basis that their materials can be re-cycled at the end of their useful life – reducing waste going to landfill?	☐	☐	☐	☐	☐	☐
Sustainable timber: • Has timber been specified that comes from sustainable and legal sources and where suppliers provide independent certification?	☐	☐	☐	☐	☐	☐
Robustness and low maintenance: • Have materials been chosen that are robust and durable in use, decreasing the need for costly maintenance and replacement?	☐	☐	☐	☐	☐	☐
• And are vulnerable components adequately protected?	☐	☐	☐	☐	☐	☐
Low ozone depletion potential (ODP) refrigerants: • If there is air-conditioning or refrigeration, is the refrigerant used of 'zero ozone depletion potential' ('zero ODP')?	☐	☐	☐	☐	☐	☐

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Lighting						
Exploiting daylight: • Have all opportunities for using daylight been exploited, including light wells, light pipes, roof lights, and general design of windows?	☐	☐	☐	☐	☐	☐
Light interior finishes: • Have light coloured finishes been chosen internally to improve internal reflections – subject to compatibility with the needs of games such as badminton that require contrast between shuttlecocks and adjacent walls?	☐	☐	☐	☐	☐	☐
Quantity and quality of lighting: • Have appropriate standards for illumination levels been selected that provide the required quantity and quality of light consistent with the minimum energy demand?	☐	☐	☐	☐	☐	☐
• Over-lighting should be avoided, and areas of special need should be met locally?	☐	☐	☐	☐	☐	☐
Efficient lamps and fittings: • Have intrinsically efficient lamps together with reflectors and fittings been selected that make maximum use of the light output, including in overlooked areas like corridors and WCs?	☐	☐	☐	☐	☐	☐
Responsive lighting controls: • Have occupancy sensing controls, daylight-linked controls, and/or time switch controls been considered for all areas where lights may otherwise be left on – both internally and externally?	☐	☐	☐	☐	☐	☐
Positioning and labelling of light switches: • Are switches in accessible locations where it is obvious which lamps they operate?	☐	☐	☐	☐	☐	☐
• Are lamps switched in banks to encourage those not required to be switched off?	☐	☐	☐	☐	☐	☐
• Are switches labelled clearly?	☐	☐	☐	☐	☐	☐
Key-operated light switches: • Are fish-tail switches used that can be operated only by staff using a key to prevent unwanted tampering?	☐	☐	☐	☐	☐	☐

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Efficient and controlled exterior lighting: • Have efficient exterior lights been selected?	☐	☐	☐	☐	☐	☐
• Do they direct light to where it is needed for circulation and security, and reduce stray light into the sky?	☐	☐	☐	☐	☐	☐
• Are they switched by daylight-linked controls that ensure they are not left on during daytime?	☐	☐	☐	☐	☐	☐
• Have self-contained solar-powered lamps been considered to reduce the need for mains connections?	☐	☐	☐	☐	☐	☐
Access for cleaning and lamp replacement: • Has consideration been given to access to allow light fittings to be cleaned and maintained and lamps changed?	☐	☐	☐	☐	☐	☐

Heating, And Ventilation Systems						
Heating system and pattern of use: • Is the heating system including the heat source, the type of emitters and the control system, well matched to the pattern of use – for example, to cope with intermittent use efficiently?	☐	☐	☐	☐	☐	☐
Zoning of building services: • Have the services been zoned according to the patterns of use and the heating and ventilation requirements of particular spaces?	☐	☐	☐	☐	☐	☐
Intrinsically efficient plant: • Has intrinsically efficient plant been specified? For example, condensing boilers that extract latent heat from flue gases, or modular boilers that reduce inefficiencies associated with frequent on-off switching.	☐	☐	☐	☐	☐	☐
Feasibility of CHP: • Has the feasibility of using combined heat and power (CHP) been assessed, particularly for swimming pools with their year round demand for heat?	☐	☐	☐	☐	☐	☐

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Heat recovery systems: • Have heat recovery systems – particularly for swimming pools – been considered, such as dehumidification systems, ventilation heat recovery and heat recovery from swimming pool water?	☐	☐	☐	☐	☐	☐
Decentralised plant: • Where loads are small, have separate local systems been considered – for example independent water heaters with time controls, in preference to long pipe runs from central plant?	☐	☐	☐	☐	☐	☐
Variable speed fans: • Have variable speed fans and a humidistat controller been considered for pool hall ventilation to minimise the quantity of ventilation air consistent with adequate supply of fresh air and removal of contaminated air?	☐	☐	☐	☐	☐	☐
Localised heating: • Have gas fired radiant tube heaters been considered for multi-purpose halls; compared with warm-air convective systems, air temperature can be kept lower for the same comfort level – so less energy is used?	☐	☐	☐	☐	☐	☐
Pool cover: • Has a pool cover been specified: used at night this helps to reduce both heat and water loss and also allows night ventilation rates to be lowered?	☐	☐	☐	☐	☐	☐
• Pool cover materials should be carefully selected to avoid emissions of SVOCs.	☐	☐	☐	☐	☐	☐
Effective controls: • Have central, zone and room controls been designed to ensure that heating and ventilation are provided to occupants only when, where and to the extent needed, and to protect the building fabric from degradation through condensation and mould growth?	☐	☐	☐	☐	☐	☐
• Are controls readily accessible and appropriate to the skills of site staff and maintenance contractors?	☐	☐	☐	☐	☐	☐

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Status indicators: • Have status indicators been specified to indicate the status of plant so that checks can be made that it is operating in compliance with design intentions, for example, that heating and ventilation are not in conflict.	☐	☐	☐	☐	☐	☐
Saunas and steam rooms: • Is the heating to these rooms controllable so it can be switched off when they are not in use?	☐	☐	☐	☐	☐	☐

Water Conservation Measures						
Leak detection: • Is water leak detection installed for all mains supplies?	☐	☐	☐	☐	☐	☐
Water conservation measures: • Have water conservation measures been adopted, such as: tap restrictors, spring-loaded taps, sensors operating automatic taps, shower-regulators, push-button shower controls, urinal flush controls, and/or low-flow WCs?	☐	☐	☐	☐	☐	☐
Water conservation and treatment in pools: • In swimming pools, intrinsically efficient systems to encourage water conservation include planning to ensure bathers shower before entering the pool and carefully managing pool hall air temperature. To monitor pool water circulation, flow meters should be installed. Heat recovery systems should be installed to recover heat from waste water during regular backwashing. Water from automatic sampling should be returned to the pool. An agreed rate for fresh water dilution should be established. Have non-chlorine based systems for pool water treatment been assessed for their feasibility?	☐	☐	☐	☐	☐	☐
Controls on leisure facilities: • Leisure facilities such as wave machines, flumes, Jacuzzis and similar energy intensive features should have indicators showing when they are in use, and be designed to be easily switched off when not required.	☐	☐	☐	☐	☐	☐

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Commissioning And Hand-Over						
Commissioning • Effective commissioning is vital to ensure services are operating efficiently and as designed, and are delivering the performance specified or required. Elements that need commissioning will include mechanical and electrical systems, and the controls that govern them. Constructional elements such as opening windows and solar shading devices may also require commissioning.	☐	☐	☐	☐	☐	☐
Building Log Book: • The design team should assemble systematically all material relevant to a Building Log Book and the O&M manuals.	☐	☐	☐	☐	☐	☐
• The Log Book should give a summary overview of the facility and purpose of the building services, the zoning arrangements, the location and features of the relevant plant and equipment, and a schedule of the building's energy supply meters and sub-meters including their location, fuel type, and how to read them.	☐	☐	☐	☐	☐	☐
• The Log Book should also describe the operational and control strategies of the energy consuming services, and provide instructions on how to achieve the specified performance including the actions required daily, monthly, seasonally and annually. Information should also be provided on how to calculate the energy performance of the facility from the individual metered energy readings and compare it with published good practice benchmarks.	☐	☐	☐	☐	☐	☐
O&M Manuals: Operating & Maintenance Manuals will need to include: • makes and model numbers of all significant items of plant and equipment together with manufacturers' contact details;	☐	☐	☐	☐	☐	☐
• manufacturers' instructions for all significant items of plant and equipment, with clear indications of the equipment actually installed in the building and all maintenance and servicing schedules and requirements;	☐	☐	☐	☐	☐	☐
• schematic diagrams of the building services;	☐	☐	☐	☐	☐	☐
• commissioning records, including demonstration of compliance with specified energy efficiency standards, for example, for specific fan power.	☐	☐	☐	☐	☐	☐

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'Sea trials' at hand-over:						
• Is the design team committed to providing support including on-site training and advice to the facilities management team and occupants after hand-over – and to remain available to ensure the building is operating as planned?	☐	☐	☐	☐	☐	☐
• Most buildings have systems for lighting, security, heating, and ventilating that even after initial testing will need to be fine-tuned to give optimum performance in use.	☐	☐	☐	☐	☐	☐
Management Practices Including Catering						
Appoint a person to be responsible:						
• Has a person been given the responsibility to manage energy and water use, and other aspects of environmental sustainability?	☐	☐	☐	☐	☐	☐
Monitoring and targeting:						
• Has a routine been established for reading meters regularly by analysing energy and water use in a spreadsheet? This will enable benchmarking against typical buildings of the same type, and the identification of unexpected changes in the pattern of consumption, together with their probable causes. Ideally, stringent but realistic targets for reducing consumption will be set.	☐	☐	☐	☐	☐	☐
Good energy housekeeping practices:						
• Have good housekeeping practices been identified that prevent unnecessary waste of energy and water?	☐	☐	☐	☐	☐	☐
• Have these been drawn together into a walk-round energy checklist and staff training material?	☐	☐	☐	☐	☐	☐
Management on-site recycling and composting facilities:						
• If services for recycling waste materials are provided, are they managed well?	☐	☐	☐	☐	☐	☐
• Yard trimmings and food residues constitute a huge percentage of solid waste stream. If on-site composting facilities are provided, are they used and managed appropriately?	☐	☐	☐	☐	☐	☐
Energy walk-round:						
• Is a periodic tour undertaken of the premises at different times of day (and night) with the energy checklist to identify sources of energy waste, such as heating, lighting and ventilation operating when it is not required?	☐	☐	☐	☐	☐	☐

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Staff awareness and training:						
• Are new staff introduced to good housekeeping practices?	☐	☐	☐	☐	☐	☐
• Are good housekeeping practices routinely promoted through staff awareness campaigns?	☐	☐	☐	☐	☐	☐
• Has a poster or similar competition been considered to promote energy saving practices and/or identify new opportunities?	☐	☐	☐	☐	☐	☐
Celebrating success:						
• Are staff efforts recognised and celebrated when energy and water use targets are met?	☐	☐	☐	☐	☐	☐
New technologies:						
• Are periodic inspections undertaken to look for opportunities to improve efficiency through investment in energy and water saving technologies?	☐	☐	☐	☐	☐	☐
Catering energy:						
• Are kitchens provided with space heating to avoid catering equipment being used to keep staff warm?	☐	☐	☐	☐	☐	☐
• Is the size of equipment well matched to catering needs?	☐	☐	☐	☐	☐	☐
• Do white goods meet the highest efficiency standards?	☐	☐	☐	☐	☐	☐
• Are cooking appliances well-insulated?	☐	☐	☐	☐	☐	☐
• Do catering appliances have heat recovery where appropriate?	☐	☐	☐	☐	☐	☐
• Are the controls on catering equipment clearly visible and do they indicate when the equipment is switched on or running?	☐	☐	☐	☐	☐	☐
• Does equipment have an economy setting?	☐	☐	☐	☐	☐	☐
• Are electricity, gas and water supplies to catering facilities sub-metered, as this is essential for benchmarking and diagnosing usage?	☐	☐	☐	☐	☐	☐

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2. Social Sustainability

Client And Design Team Vision						
Client awareness: • Is the client aware of the importance of sustainability and its social aspects and impacts? This should include: uniting people; building social membership and identity; empower people into a more ethical and equitable society; promoting wellbeing and healthy living; increasing participation in sport; engage disadvantaged people; developing social capital and reducing crime and anti-social behaviour; encouraging volunteering; encouraging recycling; and making sustainability part of everyday practice.	☐	☐	☒	☐	☐	☐
Design team awareness: • Is the design team aware of the importance of social sustainability?	☐	☐	☒	☐	☐	☐
• Does it have the experience and access to the necessary expertise to deliver a sustainable project?	☐	☐	☒	☐	☐	☐
Development of a shared vision: • Has a shared vision for social sustainability been agreed between the client and the design team? Have challenging but realistic objectives been established?	☐	☐	☒	☐	☐	☐
Setting and meeting sustainability targets: • Have challenging but achievable targets been set for annual volunteering and charity fundraising and supporting projects?	☐	☐	☒	☐	☐	☐
• Have review and audit points been agreed to ensure standards targets continue to be met throughout the construction programme and, crucially, during operation?	☐	☐	☒	☐	☐	☐
Community Consultation: • Have local communities (or neighbours') been consulted and their concerns or aspirations regarding sustainable development been established, considered and taken into account prior to finalising the design and submission of a planning application?	☐	☐	☒	☐	☐	☐

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Individuals & Communities						
Encouraging volunteering: • More local people participating as volunteers in community life. Has a volunteering plan been prepared to encourage more volunteering activities and participation?	☐	☐	☐	☐	☐	☐
• Will simple measures to encourage social unity; building relationships in local communities/ engage the community; increased pride; confidence and optimism amongst communities; equity and ethics; building social membership and identity; creating, reinforcing and sustaining collective identities; and to empower people into a more ethical and equitable society be provided?	☐	☐	☐	☐	☐	☐
Gender equity: • Will simple measures to encourage and promote gender equity be provided? Such as; empowering girls and women given that they are often excluded from participating and enjoying the physical and psychological benefits offered by sports. e.g. by directly challenging and dispelling misperceptions about women capabilities, integrated sport programmes help to reduce discrimination and widen the role prescribed to women.	☐	☐	☐	☐	☐	☐
Behavior change: • Has a plan been prepared to encourage and make residents encourage one another to cut their personal carbon emissions?	☐	☐	☐	☐	☐	☐
Encouraging recycling: • Evidence shows that people will recycle more if their recycling rates are compared publicly with those of their neighbors. Will measures to encourage recycling be provided?	☐	☐	☐	☐	☐	☐
• Has a plan been prepared to encouraging and sustaining young people's involvement and development in sport?	☐	☐	☐	☐	☐	☐
• Has a plan been prepared to reduce youth offending and anti-social behaviour?	☐	☐	☐	☐	☐	☐
• And to suppress and control those not deemed to be 'the right sort of people, and also as the social control of marginalised groups?	☐	☐	☐	☐	☐	☐
• Has a plan been prepared to provide a crystallising point for contemporary developments, future projects and vague promises?	☐	☐	☐	☐	☐	☐
• Has a plan been prepared to enhance community capacity which could include access to knowledge, skills and resources?	☐	☐	☐	☐	☐	☐

Sustainability Issue	Sports Buildings		Sports Pitches and Tracks		Outdoor Pursuits	
	'Dry': Sports Halls, Fitness Centres, Pavilions etc	**Wet':** Swimming Pools, Ice Rinks, Combined Leisure Centres	**Natural Turf:** Pitches, Cricket Squares, Bowling Greens, Golf Courses	**Synthetic Surfaces:** Artificial Pitches, Tracks, Courts, Multi-Use areas	**Land Based:** Cycling, Climbing, Skateboarding etc	**Water Based:** Sailing, Canoeing, Rowing etc
• And to provide experience of work to individuals?	☐	☐	☐	☐	☐	☐
• Has a plan been prepared to encourage physical activity and social interaction in and between these hard-to-reach groups by locating themselves within residential communities?	☐	☐	☐	☐	☐	☐
Management						
• Has an induction and training plan been prepared to all personnel regarding sustainability matters? Such as: training on waste or energy management to people accountable or involved in managing those particular issues, such as catering and cleaning staff.	☐	☐	☐	☐	☐	☐
• Sustainability integration with personnel and internal communication on sustainability initiatives. Will measures to communicate and engage with employees and advance their levels of sustainability awareness of definite subjects through various different techniques on an on-going base be provided? Such as: theoretical training, sessions and workshops to make them aware of all eco-standards and strategies for their organisation.	☐	☐	☐	☐	☐	☐
• Will measures to promote sustainability awareness and understanding amongst all be provided? For example using events e.g. open days, social media, web pages, web site-reports, newsletters, etc.	☐	☐	☐	☐	☐	☐
Employee volunteering						
• Has a plan been prepared to provide a variety of volunteering initiatives to staffs? e.g. getting involved in community initiatives and offering days off for volunteering.	☐	☐	☐	☐	☐	☐
• Will simple measures to offer a number of training workshops designed to give further information around volunteering be provided?	☐	☐	☐	☐	☐	☐
• Are there opportunities to provide support, guidance, information and training to others? e.g. community.	☐	☐	☐	☐	☐	☐
• Are there opportunities to develop links between voluntary and community organisations, and other agencies?	☐	☐	☐	☐	☐	☐

Sustainability Issue	Sports Buildings		Sports Pitches and Tracks		Outdoor Pursuits	
	'Dry': Sports Halls, Fitness Centres, Pavilions etc.	**Wet'**: Swimming Pools, Ice Rinks, Combined Leisure Centres	**Natural Turf:** Pitches, Cricket Squares, Bowling Greens, Golf Courses	**Synthetic Surfaces:** Artificial Pitches, Tracks, Courts, Multi-Use areas	**Land Based:** Cycling, Climbing, Skateboarding etc	**Water Based:** Sailing, Canoeing, Rowing etc
Community programmes						
• Has a plan been prepared to help bring new life to communities by using spaces which other service providers often avoid?	☐	☐	☐	☐	☐	☐
• Has a plan been prepared to take part in a broader town scheme and environmental index?	☐	☐	☐	☐	☐	☐
• Has a plan been prepared to participate in a national indicator?	☐	☐	☐	☐	☐	☐
• Has a plan been prepared to ensure that 'skills vital to the long term health of the community are developed'?	☐	☐	☐	☐	☐	☐

3. Economic Sustainability

Sustainable procurement						
• Is purchase of goods and services is done in such a way that minimises the environmental impact and promotes equity and social justice right through the supply chain? This includes the employment of the building workforce and the procurements of materials in the construction of new venues, and ongoing contracting of services such as catering during a venue's operation	☐	☐	☐	☐	☐	☐
• Has a plan been prepared to source local building materials and catering sources to reduce the amount of travel by people and materials?	☐	☐	☐	☐	☐	☐
• Has a plan been prepared to appoint local suppliers embedded in the community to promote and increase the skill base for these jobs amongst people living nearby, as well as to maximise the contribution to the local economy?	☐	☐	☐	☐	☐	☐
Responsible Sourcing: • Will simple measures to promote responsible sourcing be provided? Such as; labour practices, health and safety, diversity and inclusion, animal welfare and testing, animal and plant products, timber and timber products, publications and other printed materials, sustainability related certified products.	☐	☐	☐	☐	☐	☐

Sustainability Issue	Sports Buildings		Sports Pitches and Tracks		Outdoor Pursuits	
	'Dry': Sports Halls, Fitness Centres, Pavilions etc.	**Wet'**: Swimming Pools, Ice Rinks, Combined Leisure Centres	**Natural Turf:** Pitches, Cricket Squares, Bowling Greens, Golf Courses	**Synthetic Surfaces:** Artificial Pitches, Tracks, Courts, Multi-Use areas	**Land Based:** Cycling, Climbing, Skateboarding etc	**Water Based:** Sailing, Canoeing, Rowing etc
Use of secondary materials: • Will simple measures to promote using of secondary materials? Such as; reducing waste, recycled content, packaging, waste, electrical and electronic equipment.	☐	☐	☐	☐	☐	☐
Minimising embodied impacts: • Has a plan been prepared to minimise embodied impacts? Such as; environmental management, supply of products, transport, low-carbon Games.	☐	☐	☐	☐	☐	☐
Healthy material: • Has a plan been prepared to promote using healthy material? Such as; restricted substances and materials policy; heavy metals and brominated fire retardants.	☐	☐	☐	☐	☐	☐
Economic impact						
New job and employment opportunities: • Has a plan been prepared recruit and develop a diverse workforce and ensure that opportunity and training are available to all?	☐	☐	☐	☐	☐	☐
• Has a plan been prepared to promote sustainable employment opportunities and boost skills levels locally?	☐	☐	☐	☐	☐	☐
• Will simple measures to ensure involvement unemployed people into sports venues and events workforce?	☐	☐	☐	☐	☐	☐
• Has a plan been prepared enhance and create competitive advantage in the creative industries, High-tech and knowledge-intensive services (KIS), and in the sport and leisure sector?	☐	☐	☐	☐	☐	☐
Economic impact analysis: • Has a plan been prepared to analyse the ex-post econometric of sports event, cost-benefit analyses, input/output analyses, and computable general equilibrium analyses?	☐	☐	☐	☐	☐	☐

8.6 EVALUATION OF THE FRAMEWORK

Evaluation is defined as an assessment of whether a framework is in congruence with reality (Brink, 2003). The process tries to ensure that the framework represents the characteristics of the general population and not limited to the samples used in the estimation (Good and Hardin, 2003). That is, if the framework is applied to a different sample and there is a severe drop in its predictive power, then the framework clearly does not generalise (Field, 2000).

Corbin and Strauss (2008) to evaluate the 'quality' of research findings derived using the principles of grounded theory. These criteria are;

- 'Fit' (i.e. ensuring that the findings 'resonate' with the experience of the professionals for whom they are intended).
- 'Applicability' (i.e. establishing the usefulness of findings).
- 'Logic' (i.e. ensuring that there is a logical flow of ideas, making sure that there are no significant gaps in logic).
- 'Depth' (i.e. ensuring that there is sufficient substance within the findings

As stated in chapter 3, in this study, the developed sustainable assessment framework was validated with 10 senior professionals, who had over 15 years of work experience in their organisations. In this study, during face-to-face interview, the interviewees were asked about the comprehensiveness of the developed sustainable assessment framework. Most of the interviewees asserted that the framework has a very high degree of comprehensiveness and in terms of areas covered; the developed framework has a very high level of sustainability issues. Furthermore, the interviewees were asked if they think the framework would help their organisations to implement and manage sustainability strategies; and response from all interviewees was very positive. Overall, most of the interviewees recommended that the developed assessment framework can

be used for managing sustainability strategies. The sustainable assessment framework can be further tested and revised in both academic and business context. Overall, framework and its evaluation attempted to address objective seven of this research study.

8.7 SUMMARY

This chapter has discussed the development of sustainable assessment framework for managing transformational change towards sustainability within the sports sector. It can aid managers in operationalising a sustainability strategy and tying it to the specific actions that will improve competitiveness. The findings from the previous stages of the research study and aspects from critical review of literature were taken into consideration in the development of the sustainable assessment framework. The developed and validated sustainable assessment framework provides broader idea for the integration and management of sustainability initiatives into day-to-day management decisions. In doing so, this chapter addressed objective seventh of the current study, which is “to develop and validate a sustainable assessment framework for the benefit of UAE sports sector organisations”.

CHAPTER 9 : CONCLUSIONS AND RECOMMENDATIONS

9.1 INTRODUCTION

This chapter discusses the aim, objectives and research questions of the study. In doing so, it presents the finding and also provides conclusions and recommendations. The key findings are discussed with respect to the objectives of the study. Prior to that, the research process is discussed.

9.2 RESEARCH PROCESS

The aim of this study is to explore how the UAE sports sector organisations are embedding sustainable strategies to enhance competitive advantage. In order to achieve this aim the following objectives were identified.

1. To explore the outlook of the UAE sports sector.
2. To investigate and document the perception of UAE sports sector on the concept of sustainability.
3. To explore and document the key drivers for implementing sustainability initiatives in the UAE sports sector organisations.
4. To investigate and document the key sustainability initiatives that are currently being implemented in the UAE sports organisations.
5. To critically appraise and document the main challenges the UAE sports sector organisations face in implementing sustainability initiatives.
6. To critically appraise and document the extent to which key sustainability initiatives contribute to competitiveness.

8. To develop and validate a smart and sustainable assessment framework for the benefit of UAE sports sector organisations.

Mixed methodology (quantitative and qualitative approach) was adopted to collect and analyse data from UAE sports sector organisations. Participants in the study included board members, directors, advisers and managers responsible for sustainability initiatives in their organisations. A total of 124 completed online survey questionnaires formed the data base for quantitative analysis. The results were further augmented by qualitative results derived from semi-structured interviews with 30 professionals from 20 organisations. Interviews were audio recorded and then transcribed. As part of the analysis of the interviews, content analysis was employed. Descriptive analysis was used to analyse quantitative data.

9.3 KEY FINDINGS

Objective 1: To explore the outlook of the UAE sports sector.

Research question 1: What is the status of the UAE sports sector?

This study revealed that the UAE sports sector is still in the developing stage and existing sports facilities are idle after match, and the overall utilisation rate will be low, then it will cause a great waste of resources. A large amount of investment and difficult of the sustainable management as two relatively outstanding problems, are also the challenges for sports industry in UAE. Therefore, embedding sustainability strategically can add value to and realise benefits for organisations, including sports organisations.

Objective 2: To investigate and document the perception of UAE sports sector on the concept of sustainability.

Research question 2: What does sustainability mean to UAE sports organisations?

The study revealed that the concept of sustainability falls broadly into four key categories. They are: environmental sustainability dimension, economic sustainability dimension, corporate social responsibility dimension, and triple bottom line dimension. By its nature, sports sector, clubs and facilities pose a challenge for the sustainability movement. Sports personnel can be significant lead in the sustainability movement by being aware of and committed to sustainable strategies and initiatives within their particular organisations. Therefore, to improve the UAE industry sectors sustainability performance, decision makers have to recognise and understand the concept of sustainability. It is worthwhile to consider a holistic view of sustainability (i.e. simultaneous consideration of the environmental, social and economic sustainability dimension) rather in isolation.

Objective 3: ***To explore and document the key drivers for implementing sustainability initiatives in the UAE sports sector organisations*****.**

Research question 3: What are the key drivers that have fuelled the need for implementing sustainability initiatives in the UAE sports sector organisations?

Eight key driver that have fuelled the need for implementing sustainability initiatives in the UAE sports sector organisations. They are: reducing operating costs, protecting organisational reputation, stakeholders' pressure, government legislation/regulation, culture of the organisation, top management commitment, and ethical responsibility. It should be noted that for some sports organisations the key drivers may be all of these drivers or combination of some of these drivers.

Objective 4: To investigate and document the key sustainability initiatives that are currently being implemented in the UAE sports organisations.

Research question 4: What are the key sustainability initiatives currently being implemented in the UAE sports sector organisations needed to effect change?

In this study, eight key sustainability initiatives that have been implemented in the UAE sports sector organisations. In the order of implementation, they are: energy and carbon

management, waste management, water conservation, sustainable construction initiatives, smart sports strategies, employee engagement initiatives, social responsibility initiatives and mobile Applications for sustainability.

Overall the evidence gained in this study shows that the UAE sports organisations are recognising the need to incorporate sustainability into their business, however aren't communicating to the public efficiently. There are defined areas in which sports clubs are focusing their activities and resources such as their social and philanthropic work in terms of charity, community development, social inclusion, health and education. However, there are areas that are lacking such as social sustainability and health and safety which are often discussed through the media. It's shown that sports organisations have unique features that give them an advantage to incorporate sustainability strategies into their business operations however the UAE sport sector organisations have been slower to demonstrate these initiatives.

Overall, the outlook for improved sustainability initiatives efforts from UAE sports sector organisations looks quite promising at present, but the current recession will undoubtedly be a sharp test of the commitment of every organisation towards sustainability principles. One of the key reasons that the recession is on is due to unsustainable business practices, being too concerned with economic profit and not focusing enough on balancing profit with social and environmental issues. There is no doubt that the current tough economic condition will make sports organisations to think twice about spending money on anything but essentials to their business. But, those sports organisations that really understand what building a sustainable business means the recession should have very little impact and much better position to survive the recession. This is because sports organisations those implement sustainability initiatives will benefit from improved reputation, better employee engagement, lower operating

costs, and better relationship with key stakeholders. Therefore, it is apparent that if the UAE sports organisations does not implement and practice sustainability initiatives will pay for it in the long-term and maybe even in the relatively short-term, too.

Objective 5: To critically appraise and document the main challenges the UAE sports sector organisations face in implementing sustainability initiatives.

Research question 5: **What key challenges do UAE sports sector organisations face in implementing sustainability initiatives?**

This study revealed eight challenges UAE sports sector organisation face in implementing sustainability initiatives. Lack of knowledge is the most important challenge for implementing sustainability initiatives in the UAE sports sector. This is followed by lack of business case, culture for sustainability, current economic climate, lack of leadership, lack of management commitment, lack of government support, and lack of resources for sustainability. The findings do suggests that knowledge management, winning top management support, strong leadership, creating business case for sustainability, creating culture for change and allocating resources for sustainability initiatives are key factors for successful implementation of sustainability initiatives.

Objective 6: To critically appraise and document the extent to which key sustainability initiatives contribute to competitiveness.

Research question 6: What positive impact does sustainability initiatives have on competitiveness?

The perceived degree of positive impact of sustainability initiatives on improved corporate reputation is very high when compared to other competitiveness variables. This is followed by superior customer satisfaction, enhanced profitability, and improved stakeholder satisfaction. In the new UAE business environment, irrespective of business sector, organisations that deliver profits to investors while destroying value for society

are incurring hidden liabilities. Those that offer solutions to growing environmental and social challenges are discovering huge business opportunities and benefits. Therefore, the UAE sports organisations must implement sustainability initiatives to reap potential economic, social and environmental benefits.

To conclude UAE sports organisations should be ahead of many different industries due to the features they have at their disposal and the ability to generate social awareness worldwide, however from this evidence the sports organisations are under-utilising their resources. As sports clubs take leadership in sustainability strategies others will follow once the benefits and how it's achieved are available to the public. The bottom line of any business is to make a profit, to do this in sports clubs they must become more efficient and create a greater fan base and by incorporating sustainability strategies to be more sustainable both of these are achieved.

Objective 7: To develop and evaluate a sustainable assessment framework for managing transformational change towards sustainability.

Research question 7: Is there a need for developing a sustainable assessment framework for the benefit of UAE sports sector organisations?

The sustainable assessment framework for managing transformational change towards sustainability within the sports sector was developed and evaluated. It can aid managers in operationalising a sustainability strategy and tying it to the specific actions that will improve competitiveness. The findings from the previous stages of the research study and aspects from critical review of literature were taken into consideration in the development of the sustainable assessment framework. The developed and evaluated sustainable assessment framework provides broader idea for the integration and management of sustainability initiatives into day-to-day management decisions. The

framework can be further tested and revised in both business and academic environment.

9.4 RECOMMENDATIONS

Recommendations for decision makers

- In the new global business environment, irrespective of business sector, organisations that deliver profits to shareholders while destroying value for society are incurring hidden liabilities. Those that offer solutions to growing environmental and social challenges are discovering huge business opportunities and benefits. Therefore, sports organisations must implement sustainability initiatives to reap potential economic, social and environmental benefits.
- Growing global interest in sport development to accelerate the transition to sustainable development and societal well-being, an increasing number of sports organisations are obligating themselves to adopt such a move, hence, sport bodies have started to give the sustainability a great corporate agenda priority, bearing in mind that embedding sustainable initiatives in the sport sector would encourage public commitment to protect the environment and society. However, the UAE sports sector is still in the developing stage. Therefore, the UAE sports organisations should be ahead of many different industries due to the features they have at their disposal and the ability to generate social awareness worldwide. The UAE sports sector must take leadership in sustainability strategies.
- By its nature, sports sector, clubs and facilities pose a challenge for the sustainability movement. Sports related decision makers can be significant lead in the sustainability movement by being aware of and committed to sustainable strategies within their particular organisations. Therefore, to improve the UAE sports sectors sustainability performance, decision makers have to recognise and

understand the concept of sustainability. It is worthwhile to consider a holistic view of sustainability (i.e. simultaneous consideration of the environmental, social and economic sustainability dimension) rather in isolation.

- Understanding the level of importance of the different drivers can help organisations prioritise and align processes and resources accordingly to ensure success. It could assist decision makers to develop sustainability-related strategies based on the drivers. The current study results suggest that the implementation of social sustainability initiatives such as employee engagement and social responsibility are still evolving in the UAE sports sector organisations. Taken together, the impact of leadership, sustainability-related policies, structures, reward systems, training programmes and performance reporting are key factors in successful implementation of sustainability initiatives.
- Smart technology has enormous potential to enable sports organisations systems and processes to be automated; to provide managers with better data/information; and to support them in performing more tasks and activities while remaining visible to their communities. A wide range of smart sports equipment is available in the market which can track, analyse, and collect the data about an athlete's performance and techniques. Bluetooth connectivity, accelerometers, motion sensors, and other advanced features are integrated into the equipment with minimum impact on its usability. These improvements have been made possible due to the size and weight of their components. Such advanced technologies do not only help coaches evaluate their athletes but also aid players in assessing how their training is going on. Therefore, there is a need for implementing more smart technology initiatives in the UAE sports sector organisations. Furthermore, there is a need to develop and implement a strategic framework for implementing smart devices in the sports organisations.

- The sustainability issues are complex, dynamic, and multifaceted. Most of the sustainability initiatives are inherently collaborative, as they relate to supporting the community and future generations. Therefore, to solve some of the global sustainability problems, it is important that key leaders and decision makers connect with other stakeholders to have a positive social impact.
- Government support for using new technologies, leadership for change, positive business case for sustainability, organisational culture for change, learning organisation, rewards system, and sufficient resources allocation for sustainability initiatives are key ingredients for successful deployment of sustainability initiatives.
- In order to improve UAE sports sector reputation in the first place, sports organisations need to carefully consider environmental, social and economic issues of their business activities to enhance and protect their reputation. Among other business benefits, a sustainability-related reputation draws in higher income, attracts and retains talented workforce, and can ease negotiations with government regulators concerned about industry impacts.

Recommendations for the UAE sports sector

- The UAE sports sector is still in the developing stage and existing sports facilities are idle after match, and the overall utilisation rate will be low, then it will cause a great waste of resources. A large amount of investment and difficult of the sustainable management as relatively outstanding problems, are also the challenges for sports industry in UAE. Therefore, embedding sustainability strategically can add value to and realise benefits for organisations, including sports organisations.
- It could be noted that, although the importance of sustainability is broadly acknowledged within the UAE sports sector, there is a significant lack of a common and operationalised understanding on the concept of sustainability. In the long-term,

sports businesses should be aiming to create more openness in acknowledging and addressing the issues of sustainability. Therefore, sector-wide awareness rising programmes on the concept of sustainability needs to be implemented.

- A complex mix of political, economic, social and environmental forces drives sports organisations to implement sustainability initiatives. Before sports organisations embed sustainability initiatives they need to understand and recognise key drivers, which are pushing them towards implementation. Therefore, understanding the drivers for implementing sustainability initiatives is important.
- The implementation of initiatives related to sustainability is low in the UAE sports sector organisations. Therefore, there is a need to reshape the UAE sports sector organisations existing sustainability strategy in order to gain sustainable competitive advantage.
- It is suggests that more clarity is needed on how the UAE sports sector organisations must change to meet the sustainability challenge, and how the necessary changes may be achieved. Therefore, there is a need for cross-sector collaboration to capture and share best and worst practices related to managing sustainability initiatives within the sports sector.
- To address sports sector sustainability issues, knowledge is increasingly being accessed and shared across sectors and national boundaries. Cross boundary knowledge transactions also apply to boundaries within organisations, between functional specialism's and between disciplines. Therefore, stakeholders' collaboration is essential for building and managing knowledge in the UAE sports sector organisations.
- Corporate portals seem to present the potential of providing organisations with a rich and complex shared information and knowledge workspace for the generation, exchange, and use of knowledge. They synchronise knowledge and applications,

creating a single view into the organisation's intellectual capital. But developing corporate portals and building the critical mass of users required to make them successful is not an easy task.

- Some sort of standardisation of measuring tools towards sustainability approach within the sports industry is necessary, so as to clubs and facilities can measure their levels of performance and progress more effectively. This should cover both sustainability and sports management principles, thus creates appropriate integration of both perceptions, confirming a sufficient level of obligation, awareness and skills within organisations counting understanding the fundamental perceptions for effective application of sustainability.

Recommendations for academics and researchers

- The lack of leadership skills for successful deployment of sustainability initiatives is one of the most important challenges for the UAE sports organisation. Therefore, there is an urgent need to develop and deliver a bespoke leadership training programs to address, improve and measure the effectiveness of leadership skills for driving change towards sustainability.
- Sport and the natural environment play an important role in shaping the elements of the communities in which sport organisations personnel operate. Sport management students, as pre-managers, require the most comprehensive and immersive experiences possible to prepare them for a career in the sport industry. With the multiplicity of linkages between sport organisation and event operations and the environment, it is imperative that sport management curricula integrate the natural environment into its course and extracurricular work. Developing an understanding, a focus on, and even a passion for sustainability in sport requires a holistic approach

to teaching that interconnects intellect, application, philosophy, and emotions into an immersive set of applied experiences that result in a transformative learning experience. Therefore, the UAE business and sport education curricula must integrate the sustainability management aspects into its courses.

- The scarcity of knowledge and expertise associated with sustainability initiatives is, and will continue to be, a huge challenge for the UAE sports organisations. Therefore, training programmes related to the management of sustainability-related knowledge will help leaders, managers, and change agents to better understand on how to craft and implement various sustainability-related strategies for competitive advantage.
- The recent developments in mobile technologies present great opportunities for the UAE sports sector organisations wishing to manage sustainability issues effectively. Therefore, the UAE government must develop and deploy a policy framework for successful implementation of mobile applications to minimise social, economic and environmental sustainability risks. It is essential that attention is given to capacity building on mobile applications business concepts, strategies, and processes in relation to sustainability. The education and training programmes should be dynamic and adaptable to the increasing changing needs of business, society and people at large.

9.5 FUTURE WORK

This research study has revealed a number of areas for further research and development including the following areas:

- It would be worthwhile to explore the differences between micro enterprises (organisation employee size less than 10), small and medium-sized enterprises'

(organisation employee size less than 250) and large organisations (organisation employee size more than 250) approach to managing sustainability initiatives for improved competitiveness within the sports sector.

- Extensive studies are needed to explore the causal mechanisms linking sustainability initiatives to competitiveness variables (e.g. profitability) and to determine whether or not those relationships hold consistently over time.
- It is suggested that future research on mobile applications for sustainability should focus on user readiness aspects, as well as organisation readiness for adoption and usage patterns of mobile devices.
- Given that the research reported in this thesis is largely exploratory in nature, the results presented here are only tentative and of limited value for the purpose of generalisation. Therefore, additional research with more elaborate and better articulated designs is therefore called for, to further explore the complex issue of managing sustainability initiatives for improved competitiveness.
- The intention behind the developed sustainable assessment framework was to provide a useful aid for the UAE sports sector organisations to embed sustainability initiatives at organisation level. Therefore, developing this framework as a user friendly mobile application (e.g. dynamic sustainability dashboards) could further improve its ease of use and appeal for external stakeholders.

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APPENDIX A: PROTOCOL FOR SEMI-STRUCTURED INTERVIEWS

EMBEDDING SUSTAINABLE STRATEGIES FOR COMPETITIVE ADVANTAGE IN THE UAE SPORTS SECTOR

SEMI-STRUCTURED INTERVIEW QUESTIONS

Date	
Time of interview	
Organisation	

	Name of Interviewee	……
	Position of Interviewee	……
	Organisation total employee size	……
	Please kindly tell me a little about what your current job role is in the organisation?	
	• What do you think the status of the UAE sports sector? • Given your role in this organisation, please explain what does "sustainability" mean to you and your organisation?	
	• Can you describe the key drivers that have fuelled the need for implementing sustainability initiatives in your organisation?	
The next few questions will focus on key sustainability initiatives that have been implemented in your organisation.		
	From the job role and responsibilities that you perform in this organisation, please, describe key 'sustainability initiatives' that are currently being implemented in your organisation	
The discussions have been very interesting. The next few questions will focus on main challenges organisations face in implementing key sustainability initiative.		
	• From the job role and responsibilities that you perform in this organisation, please, enlighten me on the main challenges your organisation face in implementing sustainability initiatives?	
The next few questions will focus on the impact of key sustainability initiatives on organisational competitiveness.		
	• Given your job roles and responsibility, kindly explain how the efforts of sustainability initiatives have contributed to your organisation's competitiveness? • In your view is there a need for developing "a sustainable assessment framework for managing transformational change towards sustainability".	

Thank you for your views on the above questions. I would also like to thank you for the time you have dedicated to this research. If you are interested to know the outcome of this research, it would be my pleasure to share it with you.

DETAILS OF ORGANISATIONS THAT PARTICIPATED IN THE SEMI-STRUCTURED INTERVIEWS

A break-down of professionals who were interviewed for the study

Responsibility of interviewee in the organisation	No. of Interviews
Directors	
• Sustainability project directors	2
• Associate director for sustainability	1
• Director of supply chain	3
• Sustainable procurement director	2
• Operations director	2
• Human resources director	3
Advisors	
• Sustainability advisor	2
• Environmental management adviser	3
• Quality, Health, Safety and Environmental advisor	2
Managers	
• Senior Environmental Manager	2
• Operation Manager	3
• Human resources manager	2
• ICT Manager	3
Total	**30**

Consent form

EMBEDDING SUSTAINABLE STRATEGIES FOR COMPETITIVE ADVANTAGE IN THE UAE SPORTS SECTOR

Consent Statement

- I agree to participate in the above research project and give my consent freely.
- I understand that the project will be conducted as described in the "Information Sheet", a copy of which I have retained.
- I understand that I can withdraw from the project at any time and do not have to give a reason for withdrawing.
- I consent to participate in an interview with the researcher.
- I understand that my personal information will remain confidential to the researcher.
- I understand that my organisation will not be identified either directly or indirectly.
- I have had the opportunity to have questions answered to my satisfaction.

Print Name: _____

Signature: _____ Date: _____

Contact Address:

_____

_____

Phone Number: _____

Fax Number: _____

Email Address: _____

Dear Sir/Madam

Re: **A sustainable assessment framework for leading change towards sustainability**

I am a PhD student at the University of Wolverhampton, U.K. and currently conducting an interview to validate a research framework titled as above. The overall aim of this research is to investigate how UAE sports sector organisations are embedding sustainable strategies so as to improve their competitiveness. This research will explore the key sustainability issues and the role which knowledge, experience and lessons learned plays in dealing with sustainability issues across a value chain. The different ways and the different contexts in which change happens, which are addressed from a sustainability perspective will also be explored.

The results of the study will benefit UAE sports sector organisations through improved awareness and understanding of (a) the key challenges facing organisations implementing sustainability initiatives across the value chain (b) the impact of sustainability initiatives on organisational competitiveness and (c) it provides broader guidance for organisations to implement sustainability initiatives into day-to-day practices across the value chain.

This discussion aims to gather your responses which will help the researcher to validate the sustainable assessment framework that will subsequently be applied for the effective implementation of sustainability strategies in the UAE sports sector organisations. This cannot be effectively developed without your participation; therefore, you are requested to participate in this research discussion. This discussion is estimated to take about 30 minutes.

In order to protect your confidentiality, privacy, dignity and anonymity, your answers will be attached with a unique code that will only be understood and accessed by the researcher. This will be stored in a password-protected computer that only the researcher has access to. Finally, any data provided by you will be destroyed once the degree is achieved. The project has ethical approval for the study protocol from the University of Wolverhampton, which provides further assurance.

If you have further questions about your participation, please contact me or my supervisor using the details below.

Thank you in advance for your help in conducting this research and I am looking forward to seeing you at the evaluation interview.

With best regards

Ali Abdul Qader Al Manhalli
University of Wolverhampton

Wulfruna Street, Wolverhampton.
England, WV1 1LY

A sustainable assessment framework for leading change towards sustainability

Purpose of the interviews:

The interview seeks to validate the developed sustainable assessment framework for leading change towards sustainability.

.

Respondent details:

- Name: .....……..……
- Background:…….
- Position / Area of expertise: ……..……..
- Organisation: ……..…….
- Date: …….…….

Evaluation of the proposed sustainable assessment framework:

1. What is your opinion on the level of completeness in terms of the overall contents of the proposed sustainable assessment framework?

2. What is your opinion on the level of completeness in terms of the logic (i.e. flow/ sequence within the sustainable assessment framework and how it mirrors what should be done) used within the proposed framework?

3. What is your opinion on the issues covered within the developed sustainable assessment framework?

4. What is your opinion on the level of understanding of the proposed sustainable assessment framework?

5. Do you have further comments/suggestions regarding any areas that need to be improved/included/deleted within the proposed sustainable assessment framework?

6. Would you recommend the sustainable assessment framework for use by sports sector organisations in the UAE?

APPENDIX B: QUESTIONNAIRE SURVEY

Embedding sustainable strategies within the UAE sports sector

Dear Potential Participant,

My name is Ali Almenhali, and I am a PhD student at the University of Wolverhampton. As a part of my program/dissertation I am carrying out a study into how UAE sports sector organisations are embedding sustainability strategies for improved competitiveness. I would like to invite you to participate in the above research project, as you are possibly influential for influencing the implementation of sustainability strategies.

Completion of the attached questionnaire will take approximately 15 minutes, and all questions can be answered by following the simple instructions. (Simply use mouse to choose allocated boxes or write answers within comment boxes provided). Completion of the questionnaire is completely voluntary. All responses are anonymous, there are no correct or incorrect answers and respondents who take part will not be identifiable. If results of this study are published they will be a summary of all responses to ensure that your privacy is protected.

Should you choose to complete the questionnaire, please return it through email; to address provided as soon as possible; preferably within two weeks after receipt. By returning the questionnaire in this manner your anonymity is ensured, so please use no identifiable markings. Returning this questionnaire will be considered as your consent to participate in the survey.

Thank you for taking time to read this and if you choose to participate in this research, I would like to extend my personal gratitude; your contribution is greatly appreciated.

Ali Almenhali
PhD researcher
University of Wolverhampton
Wulfruna Street, City Campus
WV1 1LY

Embedding sustainable strategies within the UAE sports sector

Purpose of the survey
The goal of this research survey is to investigate how UAE sports sector organisations are embedding sustainability strategies for improved competitiveness.
Confidentiality
As this survey is being conducted for university research, there is no commercial benefit. Information provided through this survey will be treated in absolute confidence. The results will only be used for the purpose of this research study and not for any other purpose.
Important notes
1. There are no right or wrong answers to the questions in this survey. Select the most appropriate answer for each question based on your view/experience. 2. There may be questions which appear irrelevant or impertinent. However, it is necessary in this study that all questions are answered, as the questionnaire is designed to achieve particular research objectives, and it is hoped not to offend respondents in any way. If there are questions which you are unwilling or unable to answer, skip them and continue answering the remainder of the questions. 3. Remember that both your identity and that of the company/organisation you work for will remain strictly confidential.

1.0 General Information						
1.1	Could you please identify your position within the organisation: ……..					
1.2	How long have you worked in the current organisation?	0-5 yrs [ ]	6-10 yrs [ ]	11-15 yrs [ ]	16-20 yrs [ ]	21 + yrs [ ]

2.0 What does the term sustainability mean to you? (**More than one can be selected**)
[ ] Social aspects
[ ] Environmental aspects
[ ] Economic aspect
[ ] Triple bottom line aspect

3.0 Organisations face drivers which influence the initiatives that are put in place. How do you rate these drivers in influencing sustainability initiatives being implemented? Please indicate (**By ticking the appropriate number**) the level of importance you attribute to each driver.

Meaning of Scale: 4 = Very Important, 3 = Important, 2 = Fairly Important, 1 = Not at all important

KEY DRIVERS	LEVEL OF IMPORTANCE			
Stakeholders pressure	**4**	**3**	**2**	**1**
Protecting organisational reputation	**4**	**3**	**2**	**1**
Reducing operating costs	**4**	**3**	**2**	**1**
Top management commitment	**4**	**3**	**2**	**1**
Government legislation/regulation	**4**	**3**	**2**	**1**
Ethical responsibility	**4**	**3**	**2**	**1**
Culture of the organisation	**4**	**3**	**2**	**1**

4.0 Many organisations have various sustainability initiatives currently in place, which of these sustainability initiatives are currently being undertaken in your organisations? Please indicate (**By ticking the appropriate box**) which have been implemented, will be in the next 5 years or isn't being implemented.

INITIATIVES	IMPLEMENTED	PLANNING TO IMPLEMENT IN NEXT 5 YEARS	NOT BEING IMPLEMENTED
Certified standards	[ ]	[ ]	[ ]
Improving customer service	[ ]	[ ]	[ ]
Sustainable financing	[ ]	[ ]	[ ]
Waste management	[ ]	[ ]	[ ]
Water management initiatives	[ ]	[ ]	[ ]
Employee engagement	[ ]	[ ]	[ ]
Resource efficiency	[ ]	[ ]	[ ]
Adopting corporate social responsibility	[ ]	[ ]	[ ]
Energy saving initiatives	[ ]	[ ]	[ ]

5.0 Many challenges are faced when implementing sustainable initiatives. To what extent do you feel the following are barriers in you organisation? Please indicate (**By ticking the appropriate number**) the extent to which the following are a **challenge** implementing initiatives.

Meaning of Scale: 4 = Very challenging, 3 = challenging, 2 = Fairly challenging, 1 = Not at all challenging

KEY CHALLENGES	LEVEL OF CHALLENGE			
Lack of government support	**4**	**3**	**2**	**1**
Lack of resources for sustainability initiatives	**4**	**3**	**2**	**1**
Lack of knowledge	**4**	**3**	**2**	**1**
Lack of leadership	**4**	**3**	**2**	**1**
Current economic climate	**4**	**3**	**2**	**1**
Lack of business case	**4**	**3**	**2**	**1**
Lack of management commitment	**4**	**3**	**2**	**1**
Culture for sustainability	**4**	**3**	**2**	**1**

6.0 Many organisations are currently implementing various sustainability initiatives for better competitiveness. To what degree do you feel the following have an impact on competitiveness? Please indicate (**By ticking the appropriate number**).

Meaning of Scale: 4 = A Very high level of positive impact; 3 = High level of positive impact; 2 = A Fairly high level of positive impact; 1 = Low level of positive impact

KEY BENEFITS	LEVEL OF IMPACT			
Enhanced profitability	**4**	**3**	**2**	**1**
Improved innovation	**4**	**3**	**2**	**1**
Improved image	**4**	**3**	**2**	**1**
Superior customer satisfaction	**4**	**3**	**2**	**1**
Enhanced business opportunities	**4**	**3**	**2**	**1**
Improved stakeholder satisfaction	**4**	**3**	**2**	**1**

PLEASE PROVIDE FURTHER COMMENTS ON EMBEDDING SUSTAINABILITY STRATEGIES FOR COMPETITIVE ADVANTAGE WITHIN THE UAE SPORTS SECTOR

THANK YOU VERY MUCH FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE.

Kindly tick the **(□)** box below if you would like to further assist in this research by taking part in additional surveys that I am conducting.

YES[ ] **YES, BUT I WOULD NEED MORE INFORMATION** [ ]
NO [ ]

☐	In return for completing this survey you will receive a highlights report of the findings. If you would like to have a copy, kindly tick the (☐) box and fill in your name and address below.
NAME:	
ADDRESS:	
EMAIL:	

APPENDIX C: LIST OF PUBLICATIONS

1. Almenhali, A., Renukappa, S. and Suresh, S., (2016) *Sports and sustainability strategies: a critical review*, 32nd International Research Conference on Business, Economics and Social Sciences, IRC-2016, December 30-31, Dubai, United Arab Emirates.
2. Almenhali, A., Renukappa, S., and Suresh, S., (2017) A systematic review of green buildings as a tool towards a sustainable construction industry, the Ninth International Conference on Construction in the 21st Century (CITC-9) "Revolutionizing the Architecture, Engineering and Construction Industry through Leadership, Collaboration and Technology", March 5th-7th, 2017, Dubai, United Arab Emirates.
3. Haddy, J., Almenhali, A., Renukappa, S., and Suresh, S., (2019) Embedding Industry 4.0 Strategies within the UK Construction Industry, the International Conference for Innovation, Technology, Enterprise and Entrepreneurship (ICITEE), 24 - 25 November, Bahrain.